CALCSTAR™

olivetti

M20 PERSONAL COMPUTER

DOCUTEL olivetti CORPORATION

ADDENDUM

CalcStar for the IBM Personal Computer
Version 1.4

CalcStar Version 1.4 is a modification of CalcStar Version 1.2. Version 1.4 is designed for use with the IBM PC.

SIMPLIFY YOUR LIFE WITH CALCSTAR

Here is a way to take the drudgery out of entering and updating rows and columns of numbers and arithmetic calculations. CalcStar is a sophisticated electronic worksheet and financial modeling tool, providing disk storage for your data *and* mathematical formulas.

CalcStar is a high-productivity business tool, designed to save you time and money. Your total savings with CalcStar depend on the number of jobs you let CalcStar handle.

OVER 250% MORE CELLS AVAILABLE WITH VERSION 1.4

An IBM PC with 160K random access memory (recommended minimum) provides CalcStar 1.4 with nearly 1400 cells for worksheet entries. That's over 2½ times as many cells as provided by CalcStar 1.2.

DOCUMENTATION FOR VERSION 1.2 CAN BE USED FOR VERSION 1.4

Most information published in the CalcStar 1.2 User's Manual and the CalcStar 1.2 Quick Guide Reference Card remains valid for CalcStar 1.4. Except for the larger worksheet available to users of the IBM PC (with 160K RAM or better), CalcStar versions 1.2 and 1.4 are essentially the same program. Some points of difference involving the IBM keyboard and a few additional edit functions are described on pages 3 and 4 of this Addendum. The following paragraph announces another convenience for CalcStar 1.4 users.

GOOD NEWS: NO INSTALLATION REQUIRED

CalcStar 1.4 is already installed for the IBM PC, no matter what kind of printer you may be using. IBM PC owners can *disregard* any reference to installing or configuring the CalcStar program. Just skip the instruction in the manual that asks you to enter "INSTCS" (to begin the install procedure) and go on to the next step.

Here is a list of the files included on your CalcStar 1.4 distribution disk:

CSMASK.MSK	CS.002	CS.007	CSDUMP.COM
TERMCAP.SYS	CS.003	CS.008	HELP1.CSD
CS.COM	CS.004	CS.009	HELPER.CSD
CS.OVR	CS.005	CS.00A	DEMO.CSD
CS.001	CS.006	CSDUMP.OVR	

GETTING STARTED

Your IBM PC manuals will tell you how to set up your equipment and "boot" your operating system. When you "boot" you are preparing your system to perform an operating system task or run a program such as CalcStar. When you see the A>displayed on your screen, your system is booted and ready to go. At the A>do the following:

1. Remove IBM PC boot disk from disk drive A.

2. Insert a *copy* of your CalcStar 1.4 program disk* in drive A.

3. Enter (that is, type or press) CS ↵

   Note: On other keyboards, the ↵ key may be called ENTER, RETURN, or CR —different labels for the *same* function.

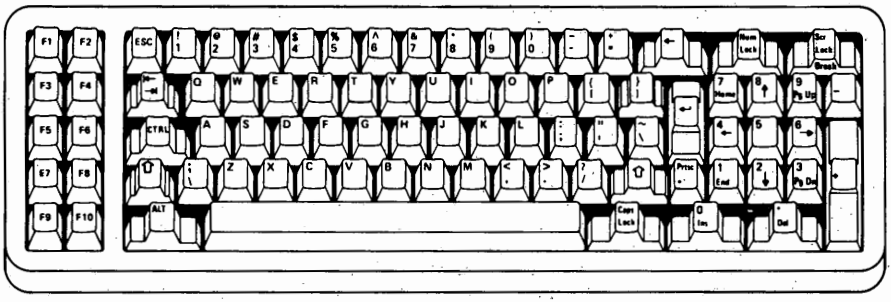
That's all it takes to get started.

Be sure to scan the balance of this Addendum for information about CalcStar function keys unique to the IBM PC. Don't try to remember all the key functions right now. Each function is explained step-by-step in the User's Manual.

---

* Protect the CalcStar disk you received with this manual. Make a copy of the original disk. Use the *copy* as your program disk. To make a copy of your CalcStar disk, use the procedure outlined in your IBM PC Operating System manual.

IBM PC Keyboard Features of Special Interest to CalcStar Users



Keyboard Equivalents for IBM PC Users

Unique Keys IBM Keyboard	Equivalent Keys Other Keyboards	CalcStar Function
⇤ ⇥	TAB	Initiates Goto command.
Ctrl	CTRL	When held down, gives some keys a special function. (Note: The symbol *alone* refers to the ^ character on the "6" key, which performs the Data Toggle function.)
←	BACK SPACE	Deletes entered characters at edit line and other off-worksheet input lines, such as printout Title line.
↵	ENTER or RETURN	Moves an edit line entry into current cell on Worksheet. Also has cursor movement functions.
NUM LOCK	No equivalent	As a toggle switch, activates numbers when pressed once, activates edit functions when pressed again. (See table entitled "Numeric Key Pad Edit Functions" on the next page.)

Numeric Key Pad Edit Functions

Edit Function Keys When Activated*	Alternate Keys, Same Functions	CalcStar Function
8 ↑	Ctrl E	Move cursor up one row.
2 ↓	Ctrl X	Move cursor down one row.
4 ←	Ctrl S	Move cursor left one column.
6 →	Ctrl D	Move cursor right one column.
9 Pg Up	Ctrl R	Scroll up one full screen.
3 Pg Dn	Ctrl C	Scroll down one full screen.
Ctrl 4 ←	Ctrl A	Scroll left one full screen.
Ctrl 6 →	Ctrl F	Scroll right one full screen.
Del	←	Delete character left at input lines (e.g., edit line). Same function as back space key.

* To deactivate edit functions (and activate numbers) at numeric key pad press "Num Lock" key. To reactivate edit functions, press "Num Lock" key again. The "Num Lock" key is a toggle switch.

CalcStar User's Manual

CS-3510-1 (1.2)
First Issue: November 8, 1982

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The Microcomputer Software Company

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This document was initially typed, corrected, and edited using WordStar word processing.

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INTRODUCTION

WHAT IS CalcStar?

CalcStar is MicroPro's powerful electronic spreadsheet — a sophisticated, yet easy to use calculating and business planning tool designed to work in concert with our family of other high quality products. CalcStar's capabilities include:

- Handling of input data and the formatting of your worksheet.
- An extensive set of commands, functions, and help menus.
- Handling of output data and the formatting of printed output.

With CalcStar, you are free to concentrate on your applications. CalcStar performs the tedious data formatting and mathematical operations.

CalcStar is easy to use. You will find that CalcStar will really save you time.

WHAT CAN I DO WITH CalcStar?

Once you have defined your problem, CalcStar will take most of the work out of it for you. In particular, some of the things you can do with CalcStar are:

- Enter numeric data and/or alphabetic information into the cells of your worksheet. You can identify rows and columns of data in any way that makes sense to you.

- Perform arithmetic and logical operations on numeric data contained in the cells of your worksheet. For example, you can sum rows or columns and put the results into specified cells.

- Output the formatted results of your calculations to your printer. You can format your balance sheet or inventory control form just the way you want.

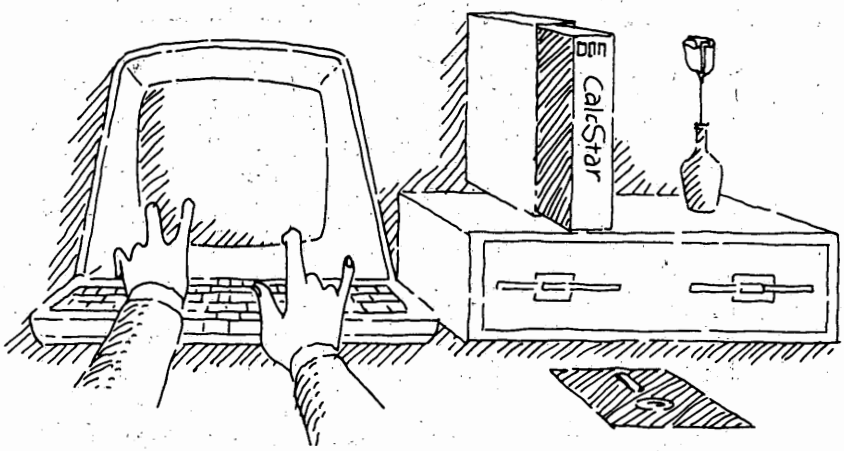
- Output the contents of each cell to either your printer or to your disk.

- Output your application program to disk or to the printer.

But you say, tell me some of the applications of CalcStar. Well, there are many applications. Some typical applications are:

- Balancing Checkbooks
- Estimating Job Costs
- Depreciating Assets
- Forecasting Business Trends
- Preparing Income Statements
- Controlling Inventory

These are just a few of the types of applications that can be done with the help of CalcStar.



1 CalcStar

1.0 OVERVIEW OF THIS MANUAL

This manual contains a wealth of information for the CalcStar user. The material is organized so that it will be helpful to the experienced programmer as well as one who is less experienced.

Herein the user will find applications and reference material. In addition, there are two indexes, one for commands and one for general information use.

1.1 THE PURPOSE OF THIS MANUAL

This manual has two major purposes:

- Training
- Reference

First you will encounter the training portion of the manual.

The reference portion of the manual is found mostly in the later sections.

1.2 HOW TO USE THIS MANUAL

Whether you are an experienced programmer or a first time user of this type of software product, you should study Chapter 2 to learn how to install CalcStar on your system. Then, you should familiarize yourself with the CalcStar screen and learn something about CalcStar commands by studying Chapter 3.

If you are familiar with spreadsheet-type programs you can refer to Chapter 14, which contains definitions of the CalcStar commands and functions.

However, if you are not thoroughly familiar with this type of program, you should begin with the applications in Chapter 4 and proceed to work through them all.

1.3 CHAPTER DESCRIPTIONS

INTRODUCTION explains what CalcStar is and gives some typical applications.

CHAPTER 1: This chapter provides an overview of the manual. It is pointed out that the purpose of the manual is both training and reference.

CHAPTER 2: This chapter defines terms with which you should be familiar. In addition, this chapter explains how to make copies of the CalcStar disk and how to install CalcStar on your system.

CHAPTER 3: This chapter introduces the user to the CalcStar worksheet and provides some practice with moving the cursor around. This is a very important chapter as it gives you practice with CalcStar without having to really understand how all of the CalcStar commands and functions work.

CHAPTER 4: This chapter provides both practice in using the CalcStar screen and shows another facet of CalcStar. It is possible to **Use CalcStar As A Calculator.** There are powerful mathematical functions which are available in addition to adding, subtracting, etc. In particular, logarithms and exponential operations can be extremely useful in certain applications.

CHAPTERS 5, 6, and 7: These chapters deal with the first application example. It is through these chapters that you get your first real opportunity to learn the power of CalcStar. One of the purposes of this application is to present a selection of the commands and functions. This application example is called **Using CalcStar to Balance Your Checkbook —PARTS I, II, and III.**

CHAPTERS 8, 9, and 10: These chapters show you how you can **Estimate A Job Cost.** More of the CalcStar commands and functions are introduced. This is a usable example for many types of job costs. The application provides for various overhead rates and material burden.

CHAPTER 11: **Asset Depreciation** is looked at in this chapter. The formulas needed to depreciate an asset over a number of years have already been programmed onto the disk that comes with the CalcStar program. This application is applicable to any business or individual need that deals with asset depreciation.

CHAPTER 12: CalcStar has the ability to perform **Linear Regression Functions.** By using these functions, business trends can be linearized, making it possible to forecast future business based on past performance. This chapter shows how revenue from product sales is dependent upon dollars spent on advertising.

CHAPTER 13: This is the final application presented in this manual. **Preparing An Income Statement** is dealt with in this chapter. This example also uses the Linear Regression Functions.

CHAPTER 14: **COMMANDS/FUNCTIONS** is the title of this chapter. No matter what your level of programming expertise, this chapter will be helpful. Every command and function recognized by the CalcStar program is listed, explained, and an example given.

APPENDIX A: **Error Messages** that may appear on your screen during the execution of the CalcStar program are listed alphabetically in this appendix. An explanation of the message and possible solutions to eradicate the error are given.

APPENDIX B: A special program known as **CSDUMP** is also included with the CalcStar package. This program allows you to print, either to a printer or another file, the instructions for a CalcStar worksheet. These instructions include formulas, cell format, and entry type. Also included in this appendix are the CSDUMP versions of Chapters 5 through 13.

2 PRELIMINARY INFORMATION

2.0 INTRODUCTION

Before you actually get into CalcStar, there are a few things you should know about computer hardware, booting your system, making copies of your disks, and installing CalcStar.

2.1 COMPUTER HARDWARE AND TERMS

In this chapter, computer hardware and some common computer terms are explained. There is no need to remember all of these terms. Just refer back to this list when you have questions.

COMPUTER HARDWARE is the physical nuts and bolts of your system, including the computer, the floppy disks or hard disks, the disk drives, the CRT screen, the CRT keyboard, and the printer.

COMPUTER manipulates data and contains memory (RAM — Random Access Memory). All data that you type is held in temporary memory (RAM) until you cause it to be stored either on a hard disk or a floppy disk. This permanent saving of data is initiated by the Save Command (;S) in the CalcStar program. If you turn the computer off without saving your data on a disk, the data will be lost.

HARD DISKS are for storage of large amounts of information. A sealed housing protects the hard disk from dust and other sources of potential harm to the magnetic surface.

FLOPPY DISKS are flexible plastic disks, 5¼" or 8" in diameter, used to store programs and data. CalcStar is distributed on a floppy disk.

DISK DRIVES spin the disks, either hard or floppy, while information is recorded on or retrieved from the disks.

LOGGED DISK DRIVE is the disk drive you are currently working on. The logged disk drive is usually drive A when an operating system is started. If your system has two or more disk drives, you can log onto any one of them.

CRT TERMINAL includes your screen and keyboard. The terminal is your access to the computer. All commands are typed and then entered into the computer from the keyboard.

PRINTER provides a printout of any information that is on the screen or has been stored in a file.

SOFTWARE is a program that controls the interaction between you and the computer.

OPERATING SYSTEM is the collection of programs that run the computer (e.g., CP/M, MS-DOS, etc.). These programs are a special kind of software that help you manage your files, format blank disks, etc.

SYSTEM PROMPT is the symbol that appears on your screen when your system is started (e.g., A>).

FILE is all of the information stored under a specific file name. CalcStar can save information on disks in three different file formats: CalcStar format, .CSD file; data file format, .DTA file; and text file format, .TXT file.

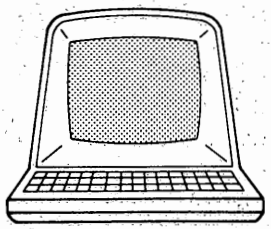
2.2 STARTING YOUR COMPUTER

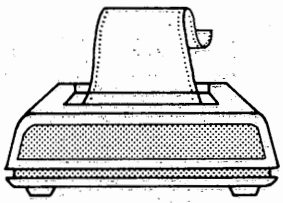
Follow this checklist to get your computer going. All computers differ, so consult your hardware manual for specific details.

- Make sure there are no floppy disks in your disk drives. Powering your system up or down with a disk in a drive can result in the loss of information recorded on the disk. Turn on your computer and terminal.
- Switch on your printer, load it with paper, check the paper alignment and the ribbon.
- Place a disk containing your operating system in the A disk drive.
- Boot your system. See your hardware manual to determine how to boot your particular computer system.

Your system prompt will appear on the screen.

Remember: Your computer is a logical friend that will do what you tell it to do. If you make a typing or command mistake, this user's manual will show you ways to recover from the error. Most of all, don't worry. Sit back, get comfortable, and learn how CalcStar can make your life easier.





2.3 MAKING COPIES OF YOUR DISKS

It is very important to make a working copy of your CalcStar system disk. Instructions for copying disks using the CP/M operating system follow. If you have an operating system other than CP/M, see your operating system reference manual.

- Boot your system

- Copy your operating system program and the CalcStar distribution disk onto a formatted, blank disk. See your operating system manual for instructions on formatting disks and copying your operating system program.

- To copy an entire disk:
  TYPE Pip B:=A:*.*
  Which means: Copy the information on the disk in drive A onto the disk in drive B.

- To copy specific files:
  TYPE Pip B:=A:filename
  Which means: Copy the file named from the disk in drive A onto the disk in drive B.

2.4 INSTALLING CalcStar

Your dealer may install your program for you. Installing means letting your program know which CRT terminal you are using. If you are doing the installing, we recommend that you follow the steps in METHOD 1. Installing CalcStar is fast and easy.

Here is some technical information for experienced users. New users can skip this paragraph and go on to METHOD 1. The installation program INSTCS provides three ways to configure CalcStar for your terminal. METHOD 1 reads a terminal description from a file named INSTCS.DAT on the CalcStar distribution disk. METHOD 2 makes use of the WS.COM file in your WordStar system. METHOD 3 allows you to manually specify a terminal description which can be stored in INSTCS.DAT in place of one you will not be using. All three create a file named TERMCAP.SYS.

2.4.1 METHOD 1 INSTALLING THROUGH INSTCS.DAT

This is the most often used method of installing the CalcStar program. In response to the operating system prompt (such as A>),

TYPE **INSTCS**

PRESS **RETURN**

which will display a sign-on page and then ask a question.

Normal first-time installation of CalcStar (Y/N)?

A reply of Y, will set you up for METHOD 1. You will see a table of terminal names and letters. Let us suppose your terminal is a TeleVideo 950, listed as selection 2.

The prompt will read:

Please enter selection:

TYPE **2**

PRESS **RETURN**

The prompt will read:

Current Terminal is TeleVideo 950
OK (Y/N):

A reply of Y will display the prompt:

Are the modifications now complete (Y/N)?

A reply of Y will display the name of the terminal selected and a message about your printer. The message means that any functioning printer will print your worksheets. No additional installation steps are required.

To conclude the installation process and return to your operating system,

TYPE **Y**

What has happened is this: INSTCS has retrieved the definition of the terminal from the file INSTCS.DAT and placed it into the file TERMCAP.SYS and CalcStar is now ready to go.

2.4.2 METHOD 2 INSTALLING THROUGH WordStar 3.0

If your response to the Normal first-time installation prompt is N (see METHOD 1 procedure), then you are presented with a further selection:

A Modification of existing installation

B Installation from WordStar version 3.0 file

<CTRL-O> modify database enable.

Please enter selection (A,B):

If you select **B**, you have chosen METHOD 2. This method allows CalcStar to use the same customization details you are using for your WordStar program.

You will be asked for the name of the WordStar file to be used. Precede the WordStar program file name, WS.COM with the name of the disk drive containing that file: e.g., enter A:WS.COM.
The screen will display:

CalcStar Terminal Installation Menu A

TYPE **U**

for no change.

The next prompt names the terminal installed through WordStar. If the terminal name matches the terminal you intend to use,

TYPE **Y**

At the next 2 prompts :

TYPE **Y**

This completes the installation. The data in WS.COM that CalcStar needs will be placed in TERMCAP.SYS, and CalcStar is ready for use. Note that INSTCS.DAT is not affected by this process.

2.4.3 METHOD 3 PATCHING FOR A TERMINAL NOT LISTED

If neither of the above methods applies to your situation, then you can use METHOD 3, a series of questions to which you must respond with hexidecimal values (or actual keystrokes, if applicable) regarding characteristics of your terminal.

Prior to such an installation, you will need the following terminal control code information: on keyboard cursor control keys (WordStar standard recommended); code used to position screen cursor; keys used for Escape, Backspace, Delete; required initialization and termination controls for terminal.

INSTCS uses two forms of input: the data in INSTCS.DAT, and keyboard entries. It always writes a new TERMCAP.SYS file, and it also may update INSTCS.DAT if you condition it to do so. The use of METHOD 3 may require the assistance of your dealer in determining the codes that must be filled in, but the information should be available in the manual that came with your terminal.

PROCEDURE: Begin as in METHOD 1. When you see the list of terminal titles 'CalcStar Terminal Installation Menu A' displayed:

TYPE **48**

PRESS **RETURN**

The number 48 refers to none of the terminals listed, so the prompt will read:

Current terminal is OK (Y/N) :

File Layout for TERMCAP.SYS

CONTENTS	ADDRESS	
Terminal name	00-17	*
Cursor right key	18	*
Cursor left key	1A	*
Cursor down key	1C	*
Cursor up key	1E	*
Next row first col	20	*
Escape	22	*
Delete	24	
Keyboard prefix	26	
Move left	28-2D	
Clear screen	2E-33	
Clear to end of line	34-39	
Highlight off	3A-3F	
Highlight on	3A-3F	
Lead in for cursor positioning	46-4D	
Column offset	4E	
Column/Row separator	50-53	
Row offset	54	
Terminator of cursor postioning sequence	56-59	
Row before column flag	5A	
Terminal end sequence	5C-65	
Terminal initialize sequence	66-6E	
Binary/ASCII digits	6F	

(All addresses are Hexidecimal offsets from the beginning of TERMCAP.SYS)

(*IF THE HIGH ORDER BIT IS SET IN ANY OF THE FOLLOWING CODES, IT IS PRECEDED BY THE KEYBOARD PREFIX CODE IN LOC 26)

A reply of Y will display the prompt:

Are the modifications now complete (Y/N) ?

TYPE **N**

to begin a series of questions you must answer about the characteristics of your terminal.

At the end of the questions, you may review your responses by answering N when asked if this is the end of the terminal patches. When you are satisfied that the parameters look right, reply Y to:

End of terminal patches (Y/N) :

A Y to the next prompt will cause TERMCAP.SYS to be written with the information you provided. INSTCS.DAT will be neither read nor written.

If you also want to update the INSTCS.DAT file you must type Y to the following prompt:

Save this definition in terminal database?

Typing Y to the final question will replace the existing terminal defined under the number you have chosen by the terminal you have just defined.

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3 USING CalcStar

3.0 INTRODUCTION

You are now going to be introduced to the CalcStar main screen. First of all, turn on your machine's power and insert the proper disk, according to the requirements of your system. If you do not know how to boot your system, go back to Section 2.2 of this manual. Also, if you have not yet made a copy of your CalcStar disk, do so now. Refer to Section 2.3 of this manual for instructions. If you have not yet installed CalcStar, see Section 2.4 for instructions.

If you've done all of that, you are ready to begin using CalcStar.

3.1 TURNING CalcStar ON

Getting the CalcStar program on your screen is relatively simple. After turning on your computer, a system prompt will appear on your screen. At this prompt:

TYPE **CS**

PRESS **RETURN**

Several seconds later you will be greeted by a display of the CalcStar Main Screen.

3.2 I HAVE CalcStar ON MY SCREEN, NOW WHAT?

First let's take a look at the screen. As you can see, CalcStar is displayed in tabular form with alphabetic column headings and numeric row headings.

When preparing a document with CalcStar, you will be working with words, numbers, and formulas, entered as separate, changeable units of information. The location of each unit of information is defined by the intersection of a column and a row. For example, A13, B7, and CC156, are all sample coordinates, or cells, in which information can be entered.

To use an analogy, imagine looking at a wall of Post Office boxes. Now imagine that each row is identified by a number from 1 through 255 and each column is identified by a letter from A through DW. In CalcStar, cells are very similar to Post Office boxes.

One reason CalcStar saves you a great deal of time is because numbers and formulas in cells do not need to be erased when the information in the cell is changed. Instead, you simply change the information and then have CalcStar recalculate the entire worksheet automatically.

3.2.1 CalcStar TERMINOLOGY

Before the parts of the screen are introduced, there are some terms you need to become familiar with.

WORKSHEET refers to the entire table of data. The worksheet limits are 127 cells left-to-right (columns) and 255 cells top-to-bottom (rows). The actual amount of data that can be stored depends on the random access memory size in your computer. Up to 481 cells are available in a system with a 64k (bytes) memory.

CELL is the location on the worksheet where the information is stored. Cells correspond to coordinates on the CalcStar worksheet.

WINDOW is the portion of the worksheet you can actually see on your CRT screen. The computer display screen is limited in size, making it impossible to view all

of the available cells at one time. The window shows 10 or 15 rows, and from 1 to 15 columns. You can scroll other portions of the worksheet into the window by moving the cursor to that area.

ROWS are the lines of data in the horizontal direction. Rows are designated as 1, 2, 3, . . . 255.

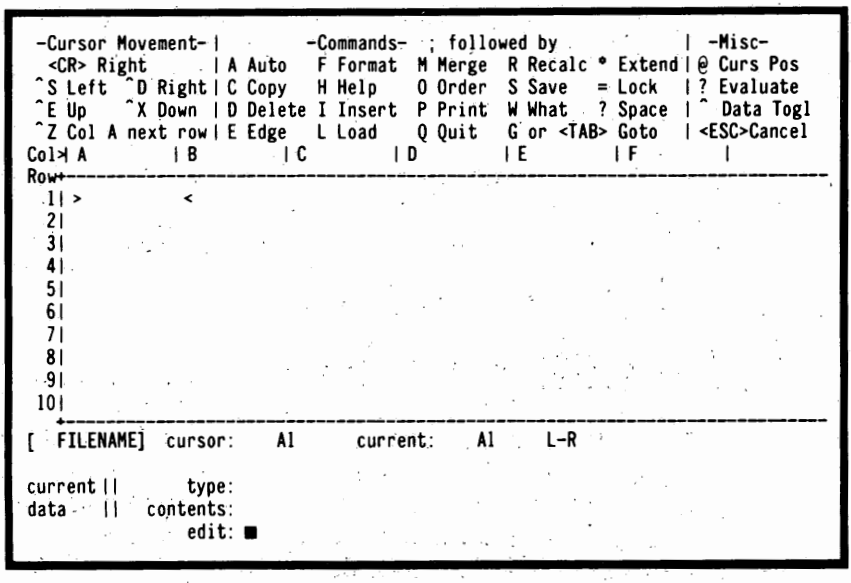
COLUMNS are the lines of data in the vertical direction. Columns are designated as A, B, C, . . . Y, Z, AA, AB . . .DW.

COORDINATES designate the intersection of a column and row with the column specified first. For example, D15 designates column D, row 15.

CURSOR is the symbol > < in the worksheet window. This is a different meaning for the word cursor than you may have encountered previously. In CalcStar the cursor is not the entry marker below the window on the edit or command lines.

3.3 VIEWING THE CalcStar WINDOW

As you can see, the CalcStar window has three unique sections. For clarity's sake, let's refer to them as the top, center, and bottom of the screen.



3.3.1 THE TOP OF THE SCREEN

The upper section of the main screen displays three different lists titled Cursor Movement, Commands, and Misc.

```
-Cursor Movement- |         -Commands-  ; followed by          | -Misc-
 <CR> Right      | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
^S Left  ^D Right| C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
^E Up    ^X Down | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
^Z Col A next row| E Edge   L Load    Q Quit   G or <TAB> Goto  | <ESC>Cancel
```

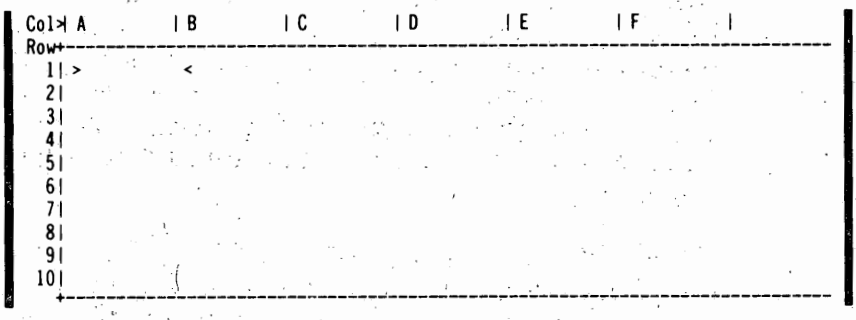
CURSOR MOVEMENT lists the keystrokes needed to move the cursor around in the CalcStar window. The ^ symbol, in this case, stands for your terminal's CONTROL key. To move the cursor in any given direction, you must hold down the CONTROL key (<CTRL>) and press the given letter. The letter does not have to be upper case. You will also notice <CR> Right. This means that by pressing the RETURN or ENTER key, the cursor will move one cell to the right, unless the order of calculation is changed from L-R to T-B.

COMMANDS are the commands recognized by the CalcStar program that perform specified operations. Next to -COMMANDS- you will see a semi-colon (;) and the words followed by. This means press the ; followed by any of the action keys on the Command list to perform the desired command. For example, if you wanted to use the Format Command, you would press ;F. For in-depth definitions of each of these commands and others, see Chapter 14.

MISC lists other functions recognized by the CalcStar program. Again, for an in-depth explanation of these functions and others, see Chapter 14. <ESC> cancels commands and functions. Press the ESCAPE key to cancel a command or function.

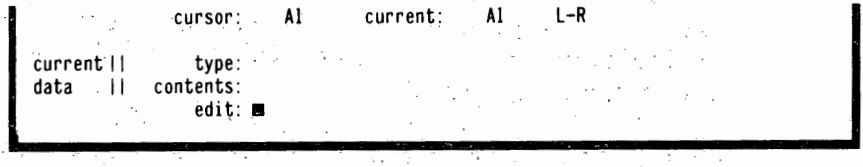
3.3.2 THE CENTER OF THE SCREEN

This is the section of the screen where all of your hard work shows. This is the window into the CalcStar worksheet. The window allows you to view a worksheet as it stands, including results of numeric calculations that have been entered up to that point.



3.3.3 THE BOTTOM OF THE SCREEN

The bottom portion of the main screen is called the current data area. Program prompts, messages, and your own entries are displayed in this area along with the content and status of your worksheet as it is being developed.



FILENAME DISPLAY: When a worksheet is saved, it becomes a disk file. The name assigned to such a file is displayed in the upper left corner of the current data area.

CURSOR LOCATION: Displays cell coordinate in which the cursor is located.

CURRENT ENTRY INDICATOR: Displays cell coordinate in which your entry will be placed. While you are typing an entry, the cursor location can be changed, but the current entry location remains fixed.

DIRECTION INDICATOR: Displays order of calculation. L-R display means left-to-right. T-B display means top-to-bottom.

MEMORY LOW: If a memory low message is displayed, save your work on a disk. You can then reload your file for a final edit without fear of losing most of your entries. You may need to divide your worksheet into two or more parts, i.e. separate files, if the number of entries required is beyond your computer's memory capacity or 481 cells, CalcStar's present limit, on a 64k system.

TYPE OF ENTRY AND JUSTIFICATION LINE: Displays entry type as **text, numeric,** or **empty, but allocated.** For data entry purposes, disregard the **empty, but allocated** notice.

CONTENTS LINE: Displays a prior entry at cursor location as it was typed. For numeric entries, contents indicator shows any formula entered. Corresponding cell on worksheet shows result of calculation.

EDIT LINE: Displays text or numeric entries as they are typed.

COMMAND LINE: Several kinds of information are displayed on the command line, including command prompts, error or instruction messages, and off-worksheet calculation results.

The vertical lines to the right of **current** and **data** merely separate that area title from the type and contents labels.

3.4 ALL ABOUT THE CalcStar CURSOR

You are now ready to use the CalcStar program. The first thing you are going to do is move the cursor around the window. If for any reason the CalcStar window is not on your screen, get it back on the screen.

TYPE **CS**

PRESS **RETURN**

Look at the Cursor Movement section on the top left of your screen. To move the cursor you will use the <CTRL> key and the S, E, Z, D, and X keys. Look at the placement of these keys on your keyboard. They are strategically placed under the fingers of your left hand. With a little practice you will be able to move the cursor around in the CalcStar window with ease.

3.4.1 MOVING THE CURSOR AROUND THE WINDOW

CTRL E (^E) will move the cursor straight up one row from its present position, unless it is in row 1, then it will not move.

CTRL D (^D) will move the cursor one column to the right from its present location unless the cursor is in column DW, then it will not move.

CTRL S (^S) will move the cursor one column to the left of its present location, except when the cursor is in column A, then there is no movement.

CTRL X (^X) will move the cursor straight down one row from its present location, except when it is in row 255, then it will not move.

CTRL Z (^Z), depending upon the position of the direction indicator, will move the cursor to the first column of the next row if the direction is left-to-right, or it will move the cursor to the first row of the next column if the direction indicator is top-to-bottom.

RETURN will move the cursor one column to the right if the direction indicator is left-to-right, or one column down if the direction indicator is top-to-bottom.

3.4.2 PRACTICING CURSOR MOVEMENTS AND COMMANDS

The time has finally come. You are now ready to begin entering information into the CalcStar worksheet. If, for any reason, the CalcStar worksheet is not on your screen, get it back on your screen.

TYPE **CS**

PRESS **RETURN**

The cursor should be in cell A1. If it is not, move it to cell A1 using the cursor controls. In cell A1 you are going to enter the word practice.

TYPE **PRACTICE**

PRESS **RETURN**

Look down at the type line in the bottom portion of your screen. It will say:

type: text: left justified

All text entries are left justified unless you tell CalcStar to do otherwise. You will learn how to do that in another application.

Using the RETURN key, move the cursor to cell B1. In this cell you are going to enter the number 1.

TYPE **1**

PRESS **RETURN**

Again, look at the type line. It reads:

type: numeric

Numeric entries are always right justified. They can not be any other way.

Now let's see just how big the CalcStar worksheet actually is. It is 255 rows down and DW columns across so it is 255 rows by 127 columns. Move the cursor to cell A255. Before you begin wearing out your finger, there is another way to move the cursor. You can move the cursor by pressing the TAB key.

PRESS **TAB**

In the bottom left of your screen will appear:

goto > A1

If you pressed RETURN, the cursor would move to cell A1. But, you don't want to go to cell A1. You want to go to cell A255.

TYPE **A255**

The prompt will read:

goto > A255

The A255 overwrote A1.

PRESS **RETURN**

You should now be in cell A255. Look at the current location. It will read:

A255

You will also notice that the numbers continue past 255, but if you try to move the cursor below 255, the cursor will not move. Don't worry about any of the row numbers past 255, they are just there for aesthetics.

Now move the cursor back to cell A1.

PRESS **TAB**

The prompt will read:

goto > A1

PRESS **RETURN**

Go ahead and play around with CalcStar for awhile. Get used to the Cursor Controls and the layout of the worksheet. Don't worry about doing something wrong and destroying the CalcStar program. As was said before, don't worry. Sit back, get comfortable, and learn to use CalcStar to make your life easier.

When you are done practicing, you will learn the Delete and Quit Commands.

Are you done?

The first thing you are going to do is remove everything from the CalcStar screen. The command you will use is the Delete Command. This command is used to delete information that has already been entered into the worksheet.

TYPE **;D**

The prompt will read:

Delete: A)ll R)ow C)olumn E)ntry

In this case, you want to delete everything, so you will press A.

TYPE **A**

By typing A, all of the information that has been entered into the memory since the last time the Save Command was used, will be deleted. Since you have not saved anything, everything will be deleted.

The prompt will read:

verify Y/N -

Since this is a very powerful command, CalcStar wants to make sure you really want to get rid of this information.

TYPE **Y**

All of the information is gone and you have a blank CalcStar screen in front of you.

You are now going to learn to use the Quit Command. You use the Quit Command when you do not want to use the CalcStar program anymore.

TYPE **;Q**

The prompt will read:

verify Y/N -

Again, CalcStar asks you to verify this command because if the CalcStar program is exited and there is a file in the memory that has not been saved, that file will be gone forever, unless you re-enter it again.

TYPE **Y**

The system prompt will appear in the upper left of your screen.

3.5 CHAPTER REVIEW

In this chapter you were introduced to the three different portions of the CalcStar screen, learned the Cursor Controls and practiced them. You entered text and numeric information into the CalcStar worksheet and you learned the commands: TAB, Delete, and Quit. Now go on to the next chapter, **USING CalcStar AS A CALCULATOR** to continue to discover the fantastic abilities of the CalcStar program.

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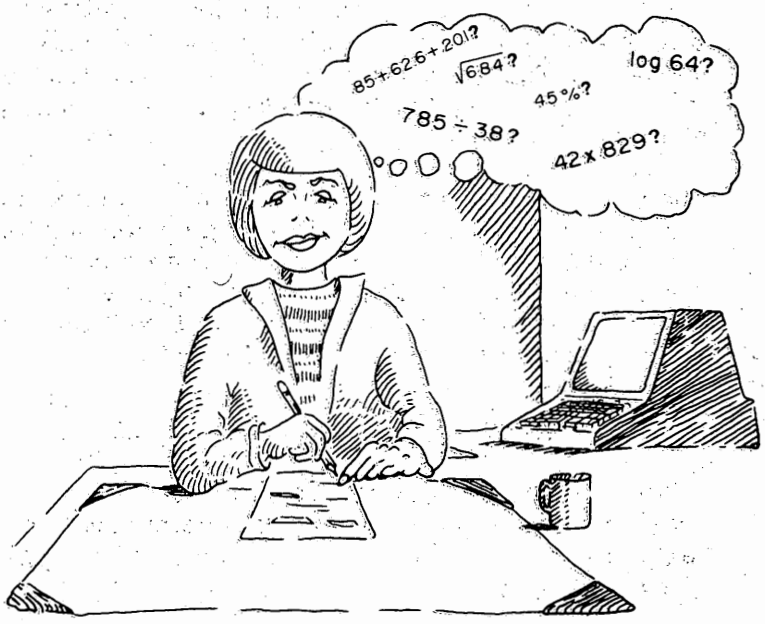
4 USING CalcStar AS A CALCULATOR

4.0 INTRODUCTION

The CalcStar program can calculate by using the Evaluate Function, just like a calculator. Calculations can be performed independently of the CalcStar worksheet.



4.1 TURNING CalcStar INTO A CALCULATOR

The Evaluate Function recognizes all the Arithmetic and System Functions used in the CalcStar program. In this chapter you will be introduced to the Arithmetic Functions + (addition), − (subtraction), * (multiplication), / (division), and % (percentage); and the System Functions ** (powers), SQRT (square root), EXP (exponential), LN (natural logarithm), LOG (common logarithm), and ABS (absolute value).

How does CalcStar know not to enter an Evaluate Function into the worksheet?

Following an equation to be calculated you must enter a ?. The ? tells CalcStar that you want to know the answer to the equation but you do not want the value entered into the worksheet. The answer to the equation will appear in the bottom left corner of the screen and will be accurate to 12 decimal places.

4.2 TRUNCATING DECIMALS

It is not possible to change the decimal precision of a value while using the Evaluate Function. Every answer displayed on the bottom left of your screen will contain 12 decimal places. To make calculations easier, truncate the decimal to the precision needed before continuing with the calculations.

The CalcStar program truncates decimals, it does not round them. When a decimal is truncated, the number preceding the point of truncation is not rounded off. For example, if the value 65.468 were rounded to two decimal places the answer would be 65.47, but if it were truncated the answer would be 65.46.

4.3 THE ORDER OF CALCULATION

When evaluating equations, CalcStar uses a standard order of calculation. This order is determined by the mathematical operations used and by the placement of parentheses.

The order of calculations of the mathematical operations is left-to-right with all multiplication and division being performed first and then the additions and subtractions are performed. Again, from left-to-right. When parentheses are used, the operations in parentheses are performed first and then the multiplications and divisions are performed and then the additions and subtractions.

Before you try the following examples, get the CalcStar window onto your screen.

TYPE **CS**

PRESS **RETURN**

TYPE **12*10+20−4/2?**

The answer is 138.

CalcStar solved the equation in the following order:

12*10=120

4/2=2

120+20−2=138

Using the same values in the same order but with parentheses,

TYPE **12*(10+20)−4/2?**

The answer is 358.

CalcStar evaluated the equation in the following manner:

(10+20)=30

12*30=360

4/2=2

360−2=358

Let's use the same values in the same order one more time.

TYPE **12*((10+20−4)/2)?**

The answer is 156.

CalcStar evaluated the equation in the following manner:

10+20−4=26

26/2=13

12*13=156

Using the same values, arranged in the same order, you received 3 different answers because of the position or absence of parentheses. When you are entering equations into CalcStar, remember the order of calculation used by the program.

4.4 EXAMPLES

Try the following examples to learn how the Evaluate Function, and some of the Mathematical Functions work. The first example uses the Arithmetic Functions + and −. The second example uses the Arithmetic Functions *, /, and %. The third example uses the System Functions ** and SQRT. The System Function EXP is introduced in the fourth example. The System Function LOG is used in the fifth example. The sixth example introduces LN, and the final example introduces ABS.

4.5 CALCULATIONS USING + AND −

Here's a little practice exercise for math game fans:

Arrange the digits 1, 2, 3, 4, 5, 6, 7, 8, and 9 in succession using each one only once and, with the aid of plus and minus signs as desired, produce a sum of 100.

Play around with this problem for a while using the CalcStar Evaluate Function. There are at least two correct answers. Do you give up or do you think you have the correct answer?

The correct answer is either:

123−45−67+89? or
123+45−67+8−9?

4.6 CALCULATIONS USING *, /, and %

You want to determine how much money you made last week, before taxes. You worked 42.5 hours and you are paid $7.45 per hour.

TYPE **42.5*7.45?**

The answer 316.625 will appear on the bottom left of the screen.

You now know your salary before taxes, but you want to determine your take-home salary. In order to do this, you must figure out how much money will go for taxes and other deductions and then, subtract that amount from 316.62. You know from previous paychecks that approximately 22% of your salary is deducted for taxes and the like. To determine your take-home pay,

TYPE **316.62−22%316.62?**

The answer will appear on the left side of your screen.

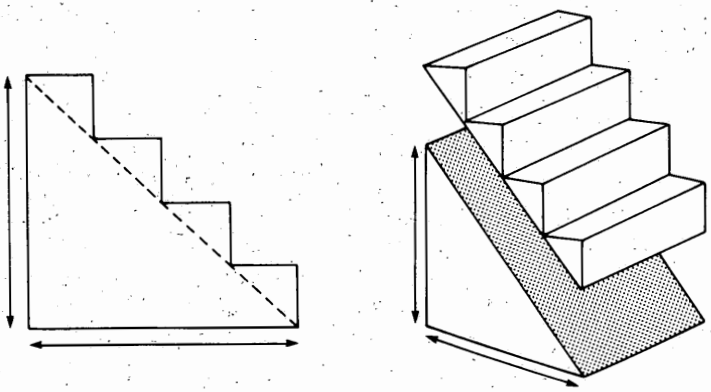
You brought home $246.96 per week. How much did you actually earn each day?

TYPE **246.96/5?**

Your average daily earnings after taxes and deductions was $49.39.

4.7 CALCULATIONS USING ** and SQRT

You are going to replace the steps to the entrance of your business with a ramp. The steps have a 28″ rise and a 52″ run. (A 90 degree angle is formed between the top step and the ground.) To determine the length of the ramp, you will use the formula $a^2+b^2=c^2$. Your equation is $28^2+52^2=c^2$. To determine the answer to this equation using CalcStar, you would



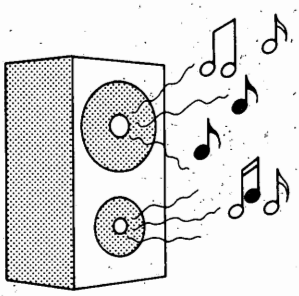
TYPE **(28**2)+(52**2)?**

You now know that $3487.98=c^2$

To determine what c equals, you must take the square root of 3487.98

TYPE **SQRT(3487.98)?**

The length of your ramp is 59.05″.



4.8 CALCULATIONS USING LOG

What does LOG mean? It stands for common logarithm or the logarithm in base 10. In symbols:

If $x=10^y$, then $y=\log_{10}x$, or, $y=\log x$

How many decibels of gain is provided by an amplifier with 12mw (milliwatts) of input power when the output power is 56 watts?

The Formula needed to solve this equation is:

$dB=10\log P_{OUT}/P_{IN}$

where P_{IN} is the input power (in watts) and P_{OUT} is the output power (in watts). To enter this equation into CalcStar,

TYPE **10*LOG(56/(12*10**-3))?**

Your answer is 36.69 decibels.

4.9 CALCULATIONS USING EXP

You have invested $1400 at a rate of 8% per annum compounded annually. How much money will you have at the end of 8 years?

To figure out this problem you will use the formula

$A=P(e)^{I(t)}$

where P is the principal, I is the interest, t is the time in years, and e is the number 2.7182818. Your equation would look like this:

$A=1400(e)^{.08*8}$

Using CalcStar to solve this equation, you would

TYPE **1400*EXP(.08*8)?**

The answer is $2655.07. You have increased your savings by $1255.07.

4.10 CALCULATIONS USING LN

What does LN mean? Natural logarithm. What is a natural logarithm? A natural logarithm is similar to a common logarithm, but instead of using a base of 10, a natural logarithm has the irrational number 2.71828... as the base. The symbol for this irrational number is e. In symbols:

If $x=e^y$, then $y=LN(x)$

Solve the following equation:

$LN(25)+ LN(e^{3.4})$

TYPE **+LN(25)+LN(+EXP(3.4))?**

The answer is 6.6.

4.11 CALCULATIONS USING ABS

The absolute value of a non-zero number is the corresponding positive number: thus the absolute value of 3 is 3 and the absolute value of −3 is 3. The absolute value of 0 is 0.

So you can see what the absolute value of a number means:

TYPE **+ABS(−4)?**

The answer is 4.

Now try the absolute value of −70+3.

TYPE **+ABS(−70+3)?**

The answer is 67.

Now try the absolute value of 5.

TYPE +**ABS(5)?**

The answer is 5.

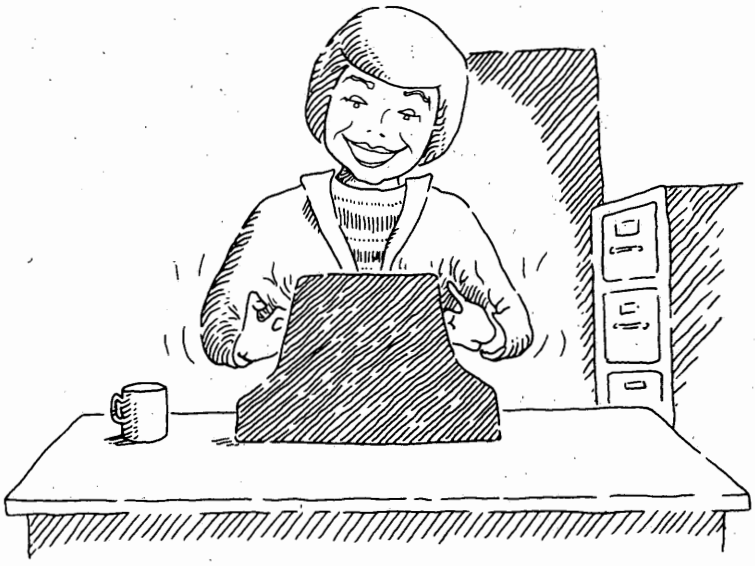
This time, try a more complicated example,

TYPE +**ABS(−245/−5)*32**

The answer is 1568.

4.12 CHAPTER REVIEW

In this chapter you have learned how to use the CalcStar program as a calculator. You have also learned to use the Arithmetic Functions +, −, *, /, and %; and the System Functions **, SQRT, EXP, LN, LOG, and ABS. You will use many of these functions again in later examples, plus learn the many other Mathematical Functions recognized by CalcStar.



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5 BALANCING YOUR CHECKBOOK—PART I

5.0 INTRODUCTION

Now that you are familiar with the cursor controls and a few of the CalcStar commands, you are ready to use CalcStar to solve some simple problems. In this chapter you will begin learning how to use CalcStar to balance your checkbook. You will use the Commands introduced in the previous chapter: Delete, Format, and Goto and the Arithmetic Functions + and −. You will also learn many new Commands and Text Functions. Don't worry. It's not as difficult as it sounds. You are already familiar with the task of balancing a checkbook by hand. Each command and function is explained in detail. In no time at all you will be a whiz at using these commands and functions.

5.1 REVIEWING THE DELETE COMMAND

If the CalcStar window is on your screen, follow steps 1 through 3 below. If the CalcStar window is not on your screen,

TYPE **CS**

PRESS **RETURN**

STEP 1

TYPE **;D**

When the prompt reads:

Delete: A)ll R)ow C)olumn E)ntry

STEP 2

TYPE **A**

You will be asked for verification of the deletion.

The prompt will read:

verify - Y/N

STEP 3

Since you want to delete everything from the memory,

TYPE **Y**

You are now ready to balance your checkbook. The screen in front of you should contain a blank CalcStar window.

5.2 THE GOTO COMMAND

The first matter of business is to label the columns you will be using. The columns will be labeled: CHECK #, ISSUE/DEPOSIT DESCRIPTION, CHECK AMOUNT, DEPOSIT AMOUNT, and BALANCE.

You will begin entering the label headings in cell B1. To get there, use the Goto Command.

STEP 1

The Goto Command is ;G (or the TAB key).

TYPE **;G**

The prompt will read:

goto > A1

You want to get to cell B1.

STEP 2

TYPE **B1**

PRESS **RETURN**

The cursor will go to cell B1.

5.3 FORMATTING COLUMN WIDTH

You are going to format column B to a width of 20 spaces instead of 10 spaces. You will be using the Format Command (;F).

STEP 1

TYPE **;F**

The prompt will read:

P)recision (2) or W)idth (10) or F)orm mode (clear)

STEP 2

Since you want to change the width,

TYPE **W**

The prompt will then read:

Column B Width (3..63)

STEP 3

TYPE **20**

PRESS **RETURN**

because you want the column to be 20 spaces wide.

5.4 CENTERING TEXT ENTRIES

TYPE **ISSUE/DEPOSIT**

PRESS **RETURN**

The text ISSUE/DEPOSIT will appear in cell B1. Don't you think it would nicer if it were centered? To center a text entry, keep the cursor in cell B1.

TYPE **/C**

PRESS **RETURN**

Now it is centered. That is what the /C does. /C is a text function that centers text within a cell.

Now go to cell C1, by pressing RETURN again. Using the Format Command, format this column to a width of 8 spaces, instead of the standard 10 spaces.

5.5 RIGHT JUSTIFYING ENTRIES

TYPE **/RCHECK**

TYPE **RETURN**

The text CHECK is entered in cell C1. You will notice that CHECK is right justified, although you would expect it to be left justified because it is text. When you originally entered CHECK there was a /R entered in front of it. The /R automatically right justified the text CHECK. There are two ways to justify text, either by entering /C, /L or /R after the text has been entered into a cell or by entering /C, /L or /R into the cell along with the text. When you enter /C, /L or /R in front of any entry, the CalcStar program reads the entry as a text entry.

Go to cell D1.

Format the column to a width of 8 spaces, using the ;F command.

TYPE **DEPOSIT**

PRESS **RETURN**

You will see that the text is left justified. All text entries are left justified. It looks alright, but you want this entry to be right justified. To right justify a text entry,

TYPE **/R**

PRESS **RETURN**

DEPOSIT will move to the right of the cell.

Go to cell A2. Format the column to a width of 8 spaces.

TYPE **/CCHECK #**

PRESS **RETURN**

5.6 COLUMN FORMATTING ON YOUR OWN

Go to B2 and center DESCRIPTION.

Go to cell C2 and TYPE AMOUNT. Right justify AMOUNT.

Go to Cell D2 and TYPE AMOUNT, again right justified.

The final column heading is BALANCE.

Go to cell E2, format the column to 8 spaces, and enter the heading and right justify it.

5.7 INSERTING COLUMNS

Oh no. You forgot to make a column for the check/deposit date. No problem. Move the cursor to cell B2. You will use the Insert Command (;I).

TYPE **;I**

The prompt will read:

Insert: R)ow C)olumn

Since you want to insert a column, you will type C.

TYPE **C**

A column will be inserted at column B and the column formerly in that position will be moved one column to the right.

Now, format column B to 8 spaces,

TYPE **DATE**

PRESS **RETURN**

and center the entry.

5.8 THE REPEAT FUNCTION

The headings just entered would stand out more if they were underlined. Go to cell A3 to practice underlining.

There are two different methods you can use to underline the headings. The first way, and the most time consuming, is to strike the - until all of the spaces under the headings are filled. The other way is much quicker and won't wear out your finger.

STEP 1

Move the cursor to cell A3,

TYPE /=-

PRESS **RETURN**

This is the repeat function. The /= is the actual function, the - tells CalcStar what symbol is to be repeated throughout the cell. Thus, if you wanted to fill a cell with x's, you would enter /=x. The cell would fill with x's. Okay, you have filled A3 with -'s.

5.9 COPYING ENTRIES

Now to fill the rest of the cells. Again, there is an easier way than entering the /= function at each cell.

STEP 1

Enter the Copy Command (;C).

TYPE **;C**

The prompt will read:

From coord (>coord):

STEP 2

TYPE **A3**

PRESS **RETURN**

The prompt will now read:

To coord (>coord):

STEP 3

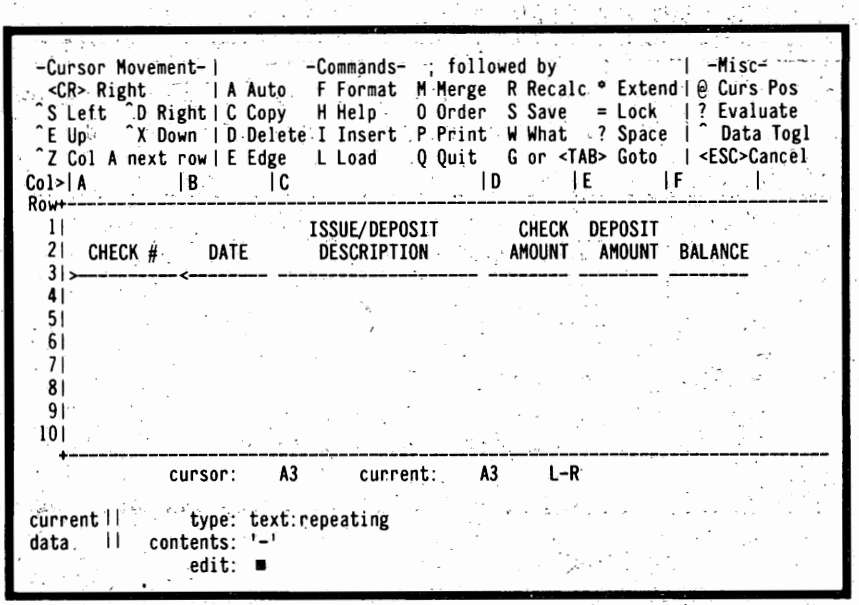
Since you want the other cells to contain the same information that cell A3 contains,

TYPE **B3>F3**

PRESS **RETURN**

The information contained in cell A3 will be copied into cells B3 through F3. After you have entered the above information, the headings will be underlined.

Compare your screen to the illustration.



5.10 THE COMMENT FUNCTION

Now, go to cell F4. You will enter your beginning balance here.

TYPE **1250.00\BEGINNING BALANCE**

(Make sure you enter a \ and not a /. Some keyboards do not have a \, in which case the Comment Function is not available.)

When you enter this, notice the words **BEGINNING BALANCE** do not appear in the cell, but they do appear on the contents line at the bottom of your screen. The \ is the Comment Function. Anything that is placed behind the \ will not appear in the CalcStar window, but will be seen on the contents line. It will not be on the printout either. This allows you to insert comments for your benefit.

5.11 CHAPTER REVIEW

This is the end of Chapter 5. The application, **BALANCING YOUR CHECKBOOK**, is continued in Chapter 6. If you want to quit the CalcStar program for a while before continuing this example, continue onto sections

5.12 and 5.13, SAVING A FILE and QUITTING THE CALCSTAR PROGRAM. If you want to continue this example, turn to CHAPTER 6 and begin at section 6.2.

5.12 SAVING A FILE

Now it's time to save all of your work. For this you need the Save Command. What else?

STEP 1

TYPE **;S**

The prompt will read:

File name

STEP 2

Choose a name for your worksheet file, but it can be no longer than 8 characters. It's a good idea to pick a name that is relevant to the information contained in the file. Why don't you name this file CHEKBOOK.

TYPE **CHEKBOOK**

PRESS **RETURN**

Now the prompt will read:

Password (<cr>=none)

STEP 3

You can protect your file from unauthorized use and deletion if you pick a password. Again, a password can contain no more than 8 characters. Go ahead and pick a password. Something easy to remember. Enter it. (If you do not want a password, PRESS **RETURN**.)

OPTIONAL

If you choose a password, the prompt will read:

Again?

RE-TYPE **your password**

If a different word is entered, the Save Command is aborted and you are returned to the edit line. When you enter your correct password, it will not be shown on the screen.

If you reenter the same password or if you did not choose to enter a password the prompt will read:

P)artial or A)ll

STEP 4

You will save all of this worksheet file.

TYPE **A**

Once you type A, your worksheet file will be saved on the logged disk drive.

5.13 THE QUIT COMMAND

Be very careful when you use the Quit Command. When the Quit Command is used, the worksheet is deleted from memory. If the worksheet was not saved it is gone forever, unless you want to reenter it!!

STEP 1

TYPE **;Q**

The prompt will read:

verify Y/N -

CalcStar is checking to make sure you really want to quit. If you enter N, the quit command is aborted and control returns to the edit line.

STEP 2

TYPE **Y**

The CalcStar window will disappear from the screen and the system prompt will appear in the upper left-hand corner of the screen.

6 BALANCING YOUR CHECKBOOK—PART II

6.0 INTRODUCTION

This chapter continues with the application BALANCING YOUR CHECKBOOK begun in Chapter 5. If you are continuing without previously saving the file, go to Section 6.2, otherwise begin here.

TYPE **CS**

PRESS **RETURN**

When the CalcStar window is on your screen, you will use the Load Command to load the CHEKBOOK file into your system's memory.

6.1 LOADING A FILE

All files are assigned names when they are saved onto a disk. To get the file from the disk onto your screen, the file must be loaded into the computer's memory.

STEP 1

TYPE **;L**

The prompt will read:

File name: (make sure file is saved)

STEP 2

TYPE **CHEKBOOK**

PRESS **RETURN**

If you saved your file using a password, enter your password now.

If you entered your password correctly or did not use a password, the prompt will read:

Load position : A1

STEP 3

PRESS **RETURN**

The CHEKBOOK worksheet will appear on your screen.

6.2 CHANGING THE DECIMAL PRECISION

Since you have previously entered the headings, you will now need to enter the check number, the date, the description, and the amount of each check or deposit.

Go to cell A5. Your first check number is 101.

STEP 1

TYPE **101**

PRESS **RETURN**

CalcStar reads 101 as a numeric entry, so it is right justified, and it has two decimal places. To get rid of the decimal places use the Format Command (;F).

STEP 2

TYPE **;F**

The prompt will read:

P)recision (2) or W)idth (8) or F)orm mode (clear)

STEP 3

To change the decimal precision,

TYPE **P**

When the prompt reads:

Column A Precision (0..12)

STEP 4

Enter the decimal precision needed. In this case it is 0.

TYPE **0**

PRESS **RETURN**

101.00 will change to 101. But the heading CHECK # is centered. But CalcStar read 101 as a numeric entry and numeric entries can't be centered. How do you tell CalcStar that you want 101 read as a text entry, not a numeric entry?

6.3 CHANGING A NUMERIC ENTRY TO A TEXT ENTRY

With the prompt still at A5,

TYPE **/C101**

PRESS **RETURN**

The entry will be centered. Why was it centered this time and not before? Because, by entering a /C you told CalcStar that a text entry was about to be made. Text entries can be centered, therefore /C101 was centered.

Move the cursor to cell B5 to enter the date the check was written. The check was written on July 20.

TYPE **JUL 20**

PRESS **RETURN**

Now go to cell C5 and enter who the check was made out to. You bought groceries at the Groceries-To-Go Store.

TYPE **GROCERIES-TO-GO**

PRESS **RETURN**

In fact, you bought $110 worth of groceries. Go to cell D5 and enter the check amount.

Before we go to the next check, look at the type line at the bottom of your screen, with the cursor at cell D5. Does it say **text** or **numeric**? If it says **numeric**, you entered $110 correctly. If it says **text**, something is wrong. Did you put a $ in front of the 110? If you did, CalcStar read the $, and assumed the entry was text. In order to have $110 read as a numeric entry, and this is what you want so calculations can be performed with this entry,

TYPE **110**

PRESS **RETURN**

The $110 is deleted from the cell and is replaced by 110.00.

6.4 THE TEXT/NUMERIC DATA TOGGLE

Go to cell A6. The next check is number 102. Another way to enter 102 as a text entry, besides placing /C in front of it, is to use the Text/Numeric Data Toggle. If you have already entered 102 into cell A6, delete it. Make sure you only delete that one entry.

With the cursor at A6,

TYPE **102^**

PRESS **RETURN**

(On most keyboards the ^ symbol is on the same key as the number 6.) The ^ works as a toggle switch. If the entry is normally text, enter a ^ behind the entry and it becomes a numeric entry. Enter a ^ behind a numeric entry and it becomes text.

After entering 102^,

TYPE **/C**

PRESS **RETURN**

to center the entry.

Check 102 was written on July 21 to Betty's Clothing for $53.31. Enter the information in the proper cells.

6.5 PRACTICE

By now you're probably getting the hang of it. Let's see how you do on this one.

On July 21 you wrote out checks 103 and 104. Check 103 went to the Gas Company and number 104 went to the Electric Company. The previous month you used $20 worth of gas and $50 worth of electricity. Using this information, enter it into the worksheet.

Compare your screen to the illustration.

```
 -Cursor Movement-|        -Commands-  ; followed by            | -Misc-
  <CR> Right      | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
 ^S Left  ^D Right| C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
 ^E Up    ^X Down | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
 ^Z Col A next row| E Edge   L Load    Q Quit   G or <TAB> Goto   | <ESC>Cancel
Col>|A        |B       |C                  |D       |E       |F       |
Row+-----------------------------------------------------------------------
  1|
  2|  CHECK #     DATE      ISSUE/DEPOSIT      CHECK    DEPOSIT
  3|                         DESCRIPTION       AMOUNT    AMOUNT   BALANCE
  4|                                                                1250.00
  5|    101      JUL 20   GROCERIES-TO-GO        110.00
  6|    102      JUL 21   BETTY'S CLOTHING        53.31
  7|    103      JUL 21   GAS COMPANY            20.00
  8|    104      JUL 21   ELECTRIC COMPANY    >   50.00<
  9|
 10|
  +-----------------------------------------------------------------------
             cursor:    D8      current:    D8     L-R

current ||      type: numeric
data    ||  contents: 50
              edit: ■
```

6.6 SUMMING YOUR ENTRIES

After paying all the bills it is finally pay day. Move the cursor to B9. There is no entry in the A column because there is no check number.

In the DATE column,

TYPE **JUL 30**

PRESS **RETURN**

In the ISSUE/DEPOSIT DESCRIPTION column,

TYPE **PAYCHECK**

PRESS **RETURN**

Do not make an entry in column D, because that is for check amounts.

Move over to column E, row 9. Column E is labeled DEPOSIT AMOUNT.

Enter the amount of the paycheck, $1,570.00. When you enter the amount, remember, no $ and also, do not enter the comma.

TYPE **1570**

PRESS **RETURN**

6.7 REVIEWING + AND −

It's time to pay the bills again, but first you should determine how much money you have in your checking account. You know that your checkbook balance is determined by subtracting the total monies in checks from the total of your deposits.

Go to cell F5. This cell is in the BALANCE column. To determine the amount of money you have, you will need to add your previous balance to any new deposits and then subtract the amount of the check. Your previous balance is contained in cell F4. You will want to add that to any new deposit. If there was a deposit in

this row, it would be contained in cell E5. Now you will want to subtract the amount of any check that may be in this row. The amount of the check would be entered in cell D5. Your equation for determining the balance of your checkbook as of July 20, is (F4+E5−D5). Try it.

TYPE **(F4+E5−D5)**

PRESS **RETURN**

The number 1140.00 should appear in cell F5.

6.8 COPYING RELATIVE EQUATIONS

Now you need to determine the balance of your checkbook as of your last paycheck. Do you have to refigure the equation for each row? Remember earlier when you used the Copy Command (;C) to copy -'s to each cell in a row? You can do the same thing with formulas.

STEP 1

TYPE **;C**

When the prompt reads:

From coord (>coord):

STEP 2

You want to copy the formula from cell F5.

TYPE **F5**

PRESS **RETURN**

When the prompt reads:

To coord (>coord):

STEP 3

TYPE **F6>F9**

PRESS **RETURN**

The > symbol stands for through. F6>F9 means the formula will be copied into cells F6, F7, F8, and F9.

The prompt will then read:

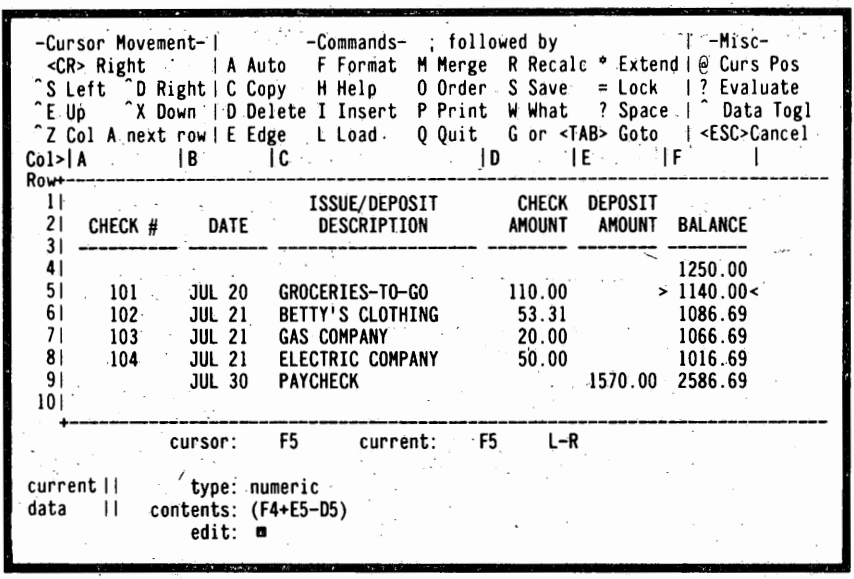
R)elative or N)o adjustment?

STEP 4

TYPE **R**

since the equation needs to be adjusted for each cell location. This tells CalcStar to adjust the coordinates in the formula to correspond to the cell location. For instance, the formula you entered into cell F5, (F4+E5−D5), would not be relevant if it were entered into cell F6, in the same form. Since you entered that the formula was relative, CalcStar will adjust the formula to read (F5+E6−D6) in cell F6. The formula will be adjusted in a similar manner at each cell location.

Your screen should look like the illustration.



6.9 CHAPTER REVIEW

You have now completed the second part of the Checkbook Balancing example. If you want to continue with this application, go directly to Chapter 7, section 7.2. If you want to stop using CalcStar for a while continue with sections 6.10 and 6.11.

6.10 SAVING A FILE

Now it's time to save all of your work.

STEP 1

TYPE **;S**

If the file has been saved previously, the prompt will read:

File name : CHEKBOOK

PRESS **RETURN**

The next prompt will read:

File exists. Destroy old contents (Y,N)?

TYPE **Y**

If the file was not previously saved, you should:

STEP 2

TYPE **CHEKBOOK**

PRESS **RETURN**

The prompt will read:

Password (<CR>=none)

OPTIONAL

A password can contain no more than eight characters. If you want to protect your file with a password,

TYPE **the password**

PRESS **RETURN**

If a password is entered, the prompt will read:

Again :

TYPE **the password again**

If you re-enter the same password or if you did not choose to enter a password the prompt will read:

P)artial or A)ll

STEP 4

You will save all of this worksheet file.

TYPE **A**

Once you type A, your worksheet file will be saved on the logged disk drive.

6.11 THE QUIT COMMAND

One more command and you will finish your first complete CalcStar worksheet example. The final command is Quit. Be very careful when you use the Quit Command. When the Quit Command is used, the worksheet is deleted from memory. If the worksheet was not saved on a disk, it is gone forever, unless you want to reenter it!!

STEP 1

TYPE **;Q**

The prompt will read:

verify Y/N -

CalcStar is checking to make sure you really want to quit. If you enter N, the quit command is aborted and control returns to the edit line.

STEP 2

TYPE **Y**

The CalcStar window will disappear from the screen and the system prompt will appear in the upper left-hand corner of the screen.

7 BALANCING YOUR CHECKBOOK—PART III

7.0 INTRODUCTION

This chapter continues with the BALANCING YOUR CHECKBOOK application. If you are continuing without previously saving the file, go to Section 7.2, otherwise begin here.

TYPE **CS**

PRESS **RETURN**

7.1 LOADING A FILE

All files are assigned names when they are saved onto a disk. To get the file from the disk onto your screen, the file must be loaded into the computer's memory.

STEP 1

TYPE **;L**

The prompt will read:

File name: (make sure file is saved)

STEP 2

TYPE **CHEKBOOK**

PRESS **RETURN**

If you saved your file using a password, enter your password now.

If you entered your password correctly or did not use a password, the prompt will read:

Load position : A1

STEP 3

PRESS **RETURN**

The CHEKBOOK worksheet will appear on your screen.

7.2 PRACTICE

It's time to pay the rest of your bills. Enter the following in the same manner you previously used. You used checks 105-108 to make the following payments.

On August 1, you went to Dr. Bones and had a set of X rays made because you were sure you had broken your arm when you fell down the stairs while chasing your neighbor's cat. Dr. Bones charged you $65.00.

Also on August 1, the rent was due. The $470.00 is payable to your landlord, Gary L. Barton.

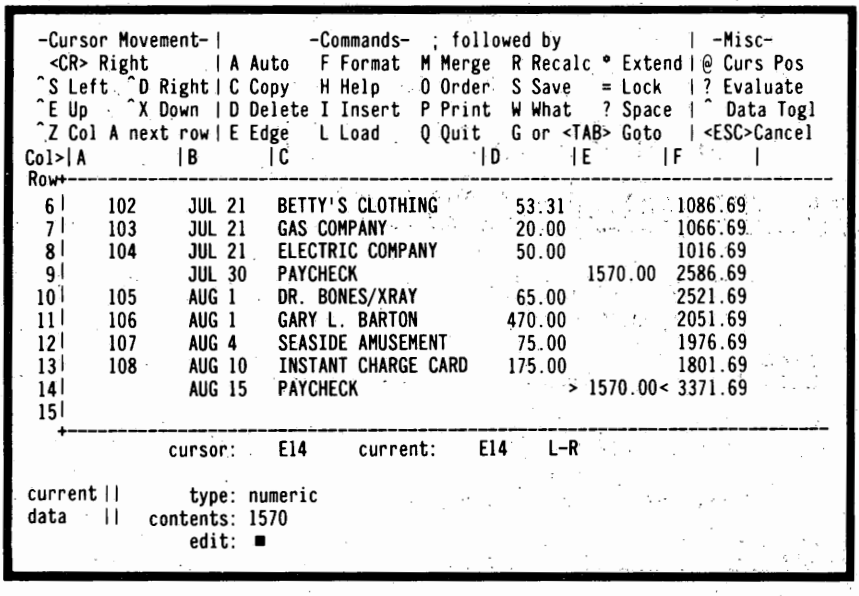
On August 4, after you discovered you had not broken your arm, you went down to Seaside Amusement to celebrate and spent $75 playing video games. Luckily, checks were accepted.

An August 10, the bill from Instant Debt Charge Card arrived. It's difficult to believe that two people actually consumed $75 worth of food and beverages. The other $100 was for automobile accessories.

It's August 15. PAYDAY!! Your paycheck is for $1,570.

Now, balance your checkbook by copying the formula in cell F9 to cells F10 through F14.

After you have entered the above information, compare your screen to the illustration.



7.3 EXTENDING THE CalcStar WINDOW

Now that you have entered all of those checks and deposits, some of your entries are off the screen. You can alleviate this problem by using the Extended Screen Command (;*). This command extends the CalcStar window from 10 to 15 rows by removing the top portion of the screen that contains the directory of commands, cursor movements, and functions. Move the cursor to cell A1.

TYPE ;*

The screen will extend and you will be able to see all of your entries. To return the screen to 10 rows, you would retype ;*.

7.4 CORRECTING ENTRY ERRORS

As you were going over your statement, you noticed that you incorrectly entered the amount of the check you wrote to Betty's Clothing. Instead of it being $53.31, as you entered it, it was actually $533.10. This is an error that needs to be corrected quickly.

To correct the error, go to the cell that contains the incorrect information. In this case, cell D6.

TYPE **533.10**

PRESS **RETURN**

The 53.31 is replaced by 533.10.

7.5 THE RECALCULATE COMMAND

Now use the Recalculate Command to recalculate your balances.

STEP 1

TYPE **;R**

When the prompt reads:

STEP 2

Recalculate: A)ll E)ntry

Since you want the whole worksheet recalculated, not just a single entry,

TYPE **A**

Compare your screen to the illustration.

```
Col>|A        |B      |C                    |D       |E       |F       |
 Row+-------------------------------------------------------------------
   1|
   2|  CHECK #     DATE      ISSUE/DEPOSIT        CHECK   DEPOSIT
   3|  --------- -------  ------------------- --------  -------  -------
   4|                                                              1250.00
   5|     101     JUL 20   GROCERIES-TO-GO        110.00           1140.00
   6|     102     JUL 21   BETTY'S CLOTHING    > 533.10<           606.90
   7|     103     JUL 21   GAS COMPANY           20.00            586.90
   8|     104     JUL 21   ELECTRIC COMPANY      50.00            536.90
   9|             JUL 30   PAYCHECK                      1570.00  2106.90
  10|     105     AUG 1    DR. BONES/XRAY        65.00           2041.90
  11|     106     AUG 1    GARY L. BARTON       470.00           1571.90
  12|     107     AUG 4    SEASIDE AMUSEMENT     75.00           1496.90
  13|     108     AUG 10   INSTANT CHARGE CARD   175.00           1321.90
  14|             AUG 15   PAYCHECK                      1570.00  2891.90
  15|
    +-------------------------------------------------------------------
                 cursor:   D6      current:   D6     L-R

current ||       type: numeric
data    ||   contents: 533.10
             edit: ■
```

7.6 SAVING A FILE

Now it's time to save all of your work.

STEP 1

TYPE **;S**

If the file has been saved previously, the prompt will read:

File name : CHEKBOOK

PRESS **RETURN**

The next prompt will read:

File exists. Destroy old contents (Y,N)?

TYPE **Y**

If the file was not previously saved, you should:

STEP 2

TYPE **CHEKBOOK**

PRESS **RETURN**

The prompt will read:

Password (<CR>=none)

OPTIONAL

A password can contain no more than eight characters. If you want to protect your file with a password,

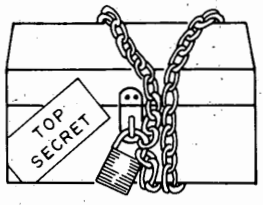
TYPE **the password**

PRESS **RETURN**

If a password is entered, the prompt will read:

Again :

TYPE **the password again**



If a different word is entered, the Save Command is aborted and you are returned to the edit line. When you enter your correct password, it will not be shown on the screen.

If you re-enter the same password or if you did not choose to enter a password the prompt will read:

P)artial or A)ll

STEP 4

You will save all of this worksheet file.

TYPE **A**

Once you type A, your worksheet file will be saved on the logged disk drive.

7.7 THE PRINT COMMAND

Now it's time to print your checkbook register. Make sure your printer is connected and turned on. You will be using the Print Command.

TYPE **;P**

STEP 1

The prompt will read:

To which file? PRINTER

STEP 2

Since you want to print a copy of the worksheet on paper,

PRESS **RETURN**

STEP 3

The prompt will read:

top left corner: A1

This is the first cell where data is entered. If you wanted only a portion of the worksheet printed, you

would enter the coordinates of the position where the printing was to begin. Since you want to print the entire worksheet file,

PRESS **RETURN**

STEP 4

The prompt will read:

bottom right corner: F14

This is the last cell that contains data. Since you want the worksheet printed out to the end,

PRESS **RETURN**

The prompt will then read:

STEP 5

Form length: CONTINUOUS

PRESS **RETURN**

The worksheet will be printed at 66 lines per page.

STEP 6

The prompt will read:

Printer width: 132

If the printer is using 14″ paper,

PRESS **RETURN.**

If the printer is using 8½″ paper,

TYPE **80**

PRESS **RETURN**

(Some printers can be set to print more characters per sheet, but in the applications in this manual we will use the standard settings.)

STEP 7

Now the prompt will read:

Report printing...
Make sure printer and paper are ready
Title>

TYPE **APPLICATION 1**

PRESS **RETURN**

The prompt will read:

STEP 8

Title>

TYPE **CHECKBOOK REGISTER**

PRESS **RETURN**

The prompt will again read:

STEP 9

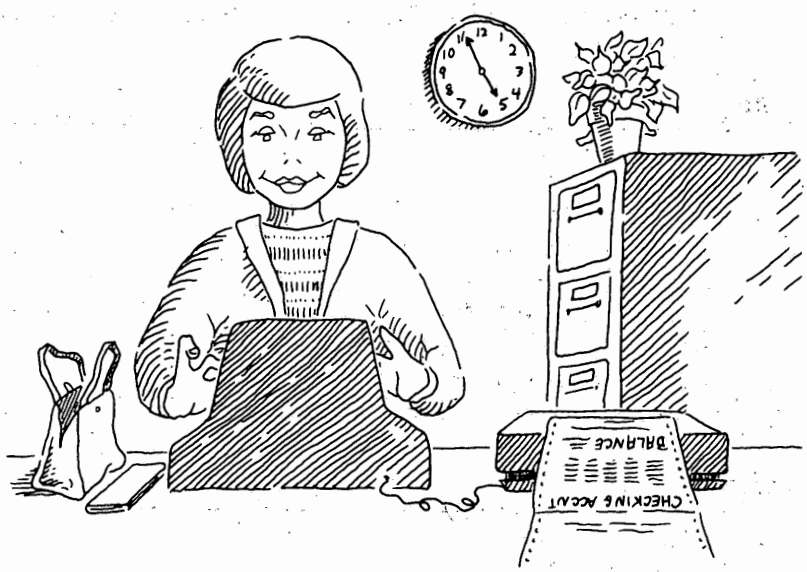
Title>

PRESS **RETURN**

The document will begin printing. When the document is done printing, the prompt will read:

.. End Report
Hit Space To Continue

PRESS **SPACE BAR**



7.8 REVIEW OF CHAPTERS 5, 6, AND 7

There, you now have a copy of your completed checkbook register. It really wasn't that difficult, was it? Let's review all you have learned in these chapters.

You now know how to copy and recalculate entries. You can right and left justify text and also center it. You can change a text entry into a numeric entry and vice versa. You can repeat a symbol throughout an entire cell without wearing out a finger. You can insert comments into a file that are seen only by you, not on the printout nor in the CalcStar window. You can add and subtract within the CalcStar worksheet. And you know how to save, load and print worksheet files.

7.9 THE QUIT COMMAND

One more command and you will finish your first complete CalcStar worksheet example. The final command is Quit. Be very careful when you use the Quit

Command. When the Quit Command is used, the worksheet is deleted from memory. If the worksheet was not saved on a disk, it is gone forever, unless you want to reenter it!!

STEP 1

TYPE **;Q**

The prompt will read:

verify Y/N–

CalcStar is checking to make sure you really want to quit. If you enter N, the quit command is aborted and control returns to the edit line.

STEP 2

TYPE **Y**

The CalcStar window will disappear from the screen and the system prompt will appear in the upper left-hand corner of the screen.

8 ESTIMATING A JOB COST—PART I

8.0 INTRODUCTION

Now that you have mastered balancing your checkbook using CalcStar, you are going to use CalcStar to estimate the cost of a job performed by your small janitorial company. This application will be presented in Chapters 8, 9, and 10. You must first determine how much the job is actually going to cost your company, and then how much you will charge the customer for performance of the job.

The first thing you need to do is get CalcStar on your screen.

TYPE **CS**

PRESS **RETURN**

A blank CalcStar window should appear on your screen.

Now you are going to begin setting up your estimating worksheet. Your estimating sheet will be broken up into five different categories. These categories will be titled DIRECT LABOR, MATERIALS AND SUPPLIES, SUBCONTRACT LABOR, TRAVEL/ENTERTAINMENT, and MISCELLANEOUS.

8.1 DETERMINING DIRECT LABOR

The first category, DIRECT LABOR, is divided into EST. MANHOURS, HOURLY RATE, OVERHEAD PERCENTAGE, and TOTAL LABOR. To enter these headings, make sure the cursor is at cell A1.

TYPE **/RCUSTOMER**

PRESS **RETURN**

STEP 1

Now move the cursor to cell A3. you are going to enter the category name, DIRECT LABOR.

TYPE **DIRECT LABOR**

PRESS **RETURN**

Something is wrong. Only the words DIRECT LAB appeared in the cell. That is because the cell is formatted to a width of 10 spaces and DIRECT LABOR needs at least 12 spaces. You can easily solve this problem with the Format Command. Make sure your cursor is at cell A3. Format the column to a width of 21 spaces just in case you need to make a long entry later on. The words DIRECT LABOR should now be displayed in cell A3.

STEP 2

It is time to enter the column headings in the DIRECT LABOR category.

The columns are: EST. MANHOURS, HOURLY RATE, OVERHEAD PERCENTAGE, and TOTAL LABOR. Enter the first part of each heading in cells B2 through E2 and center each. For example, in cell B2 you would enter the following:

TYPE **/CEST.**

PRESS **RETURN**

EST. would be centered in cell B2. Do the same for HOURLY, OVERHEAD and TOTAL.

Once you have entered the first part of the headings, move the cursor to cell B3 and begin centering the second part of each heading in the cell directly underneath the first part of the heading. For example, in cell B3 you would enter MANHOURS.

TYPE **/CMANHOURS**

PRESS **RETURN**

Do the same for RATE, PERCENTAGE, and LABOR.

It would be a good idea to separate the subcategory headings from the category and column headings. This can be done by inserting a line of hyphens in cells A4 through E4.

Move the cursor to cell A4. Using the Repeat Function, fill the cell with -'s. Now, using the Copy Command, copy the -'s in cells B4>E4.

STEP 3

You are now going to enter the DIRECT LABOR subcategories. In this case, the subcategories are: Customer Coordination, Prep. Work, Vacuum Rugs, Wash Windows, Dust Furniture, Wash Walls, and Clean Restrooms.

Move the cursor to cell A5 to begin entering the DIRECT LABOR categories. The first category is Customer Coordination.

TYPE **Customer Coordination**

PRESS **RETURN**

Continue entering the row labels: Prep. Work, Vacuum Rugs, Wash Windows, Dust Furniture, Wash Walls, and Clean Restrooms in cells A6 through A11.

Since you are moving the cursor from the top of column A down, why don't you switch the cursor movement from left-to-right to top-to-bottom. You can do this with the Order Command (;O).

TYPE **;O**

The L-R that appears in the upper right of the bottom portion of your screen, should now read T-B. Now, whenever you use the **RETURN** key to move the cursor, the cursor will move straight down one row when **RETURN** is pressed. To change the cursor movement back to L-R, re-enter the Order Command.

Continue entering the above-named row labels in Column A.

Oh no. You forgot to include Cleaning Floors in this section of your job estimating worksheet. There's no need to worry, by using the Insert Command (;I), you can solve the problem.

Move the cursor to cell A7.

TYPE **;I**

The prompt will read:

Insert: R)ow C)olumn

TYPE **R**

since you need to insert a row. A row will be inserted at the cursor location and the row that was formerly at that location will be moved down one row.

Now enter Clean Floors in cell A7.

Now return the cursor to cell B1. You are going to estimate the cost of cleaning the offices of the AOK Duck Waddle Company.

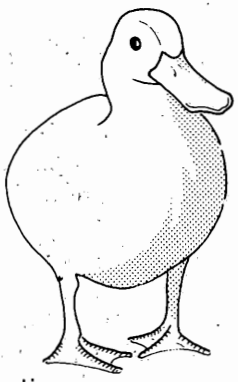
TYPE **/RAOK DUCK**

PRESS **RETURN**

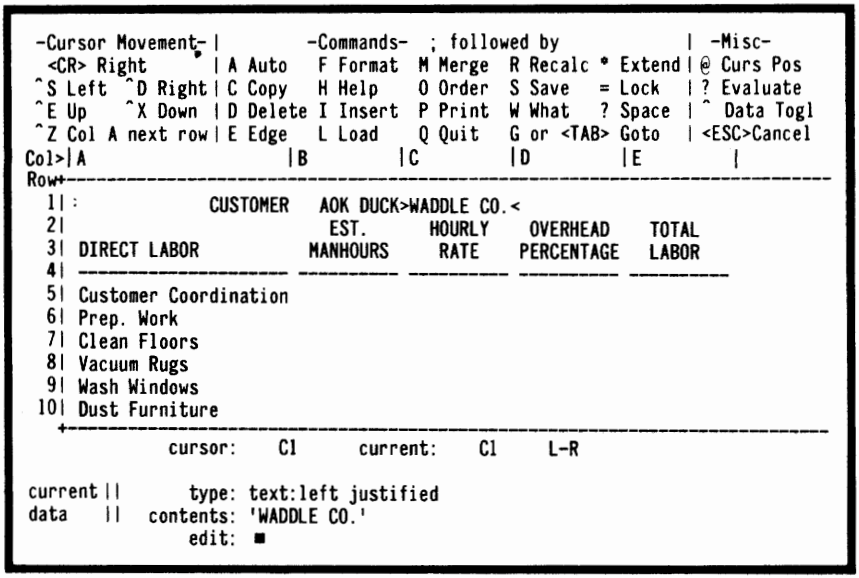
Move the cursor to cell C1.

TYPE **WADDLE CO.**

PRESS **RETURN**



Compare your screen to the illustration.



8.2 DIRECT LABOR COSTS

Move the cursor to cell A5, Customer Coordination. The first column is Estimated Manhours. The AOK Duck Waddle Company Headquarters is a fifteen-story building.

There will be a lot of instructions for yourself and your workers before you can begin cleaning the offices in the building. You estimate roughly 16 hours, two days, of discussions with Mr. Waddle's janitorial staff will be required before the actual work begins.

Move the cursor to cell B5.

TYPE **16**

PRESS **RETURN**

Since you and your foreman are going to be the people attending these instructional meetings, you will need to charge Mr. Waddle for your time and your foreman's time. You average about $22 per hour and your foreman receives $17 per hour. So you will need to charge Mr. Waddle $39 per hour. Move the cursor to cell C5.

TYPE **39**

PRESS **RETURN**

Move the cursor to cell D5. The OVERHEAD PERCENTAGE is 175.

TYPE **175**

PRESS **RETURN**

The final column is TOTAL LABOR. This column will contain the total Direct Labor cost for Customer Coordination. To determine this cost you first need to determine the overhead charge and then add it to the labor cost.

8.3 THE @ FUNCTION

You will be using the @ Function. The @ Function allows you to copy information directly from one cell to another cell.

To determine the overhead rate, multiply the Estimated Manhours by the Hourly Rate and then take 175% of the total. Add this value to the Estimated Manhours multiplied by the Hourly Rate. In this case, the equation would be 175%(39*16)+(39*16). There is another way to enter this formula into cell E5 other than by keying in the equation character by character. This is where the @ Function comes in handy.

With the cursor at E5,

TYPE +

Move the cursor to the cell that contains 175, which is cell D5.

TYPE @

+D5 will appear on the edit line.

TYPE %(

Move the cursor to the cell that contains the Hourly Rate, cell C5.

TYPE @*

Now the edit line reads +D5%(C5*

Move the cursor to cell B5.

TYPE @)+(@*

The edit line now reads:

+D5%(C5*B5)+(B5*

Move the cursor to cell C5, using either the TAB Command or ^D. [CAUTION. DO NOT PRESS THE RETURN KEY. PRESSING THE RETURN KEY TERMINATES THE @ FUNCTION.]

TYPE @)

The edit line should look like this:

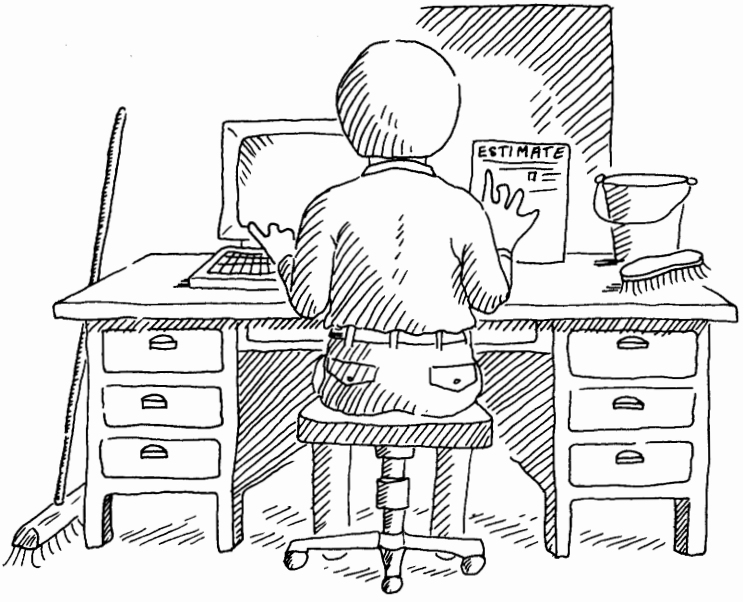
+D5%(C5*B5)+(B5*C5)

PRESS **RETURN**

The value 1716.00 should appear in cell E5. It will cost you $1,716.00 to coordinate your services with the AOK Duck Waddle Company. Compare your screen to the illustration.


```
-Cursor Movement- |        -Commands-  ; followed by          | -Misc-
  <CR> Right      | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
 ^S Left  ^D Right| C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
 ^E Up    ^X Down | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
 ^Z Col A next row| E Edge   L Load    Q Quit   G or <TAB> Goto   | <ESC>Cancel
Col>|A                  |B         |C         |D         |E         |
Row+-------------------------------------------------------------------------
  1|             CUSTOMER   AOK DUCK WADDLE CO.
  2|                         EST.       HOURLY     OVERHEAD     TOTAL
  3| DIRECT LABOR           MANHOURS     RATE     PERCENTAGE   LABOR
  4| -------------------- ---------- ---------- ---------- ----------
  5| Customer Coordination      16.00      39.00     175.00>   1716.00<
  6| Prep. Work
  7| Clean Floors
  8| Vacuum Rugs
  9| Wash Windows
 10| Dust Furniture
   +-------------------------------------------------------------------------
            cursor:    E5      current:    E5     L-R

current ||      type: numeric
data    ||  contents: +D5%(C5*B5)+(B5*C5)
              edit: ■
```



8.4 MORE DIRECT LABOR COSTS

The next category is Prep. Work. It will take your people about 24 working hours to complete the preparatory work before the actual janitorial work can begin. It only costs you $5 per hour for the Prep. Work.

Move the cursor to cell B6.

TYPE **24**

PRESS **RETURN**

STEP 1

Move the cursor to cell C6.

TYPE **5**

PRESS **RETURN**

The OVERHEAD PERCENTAGE is the same throughout the DIRECT LABOR category, so copy 175 in cells D6 through D12.

Since 175 is a percentage, a decimal precision of two is not needed. To change the decimal precision of a

column of values, use the Format Command to change the decimal precision to 0.

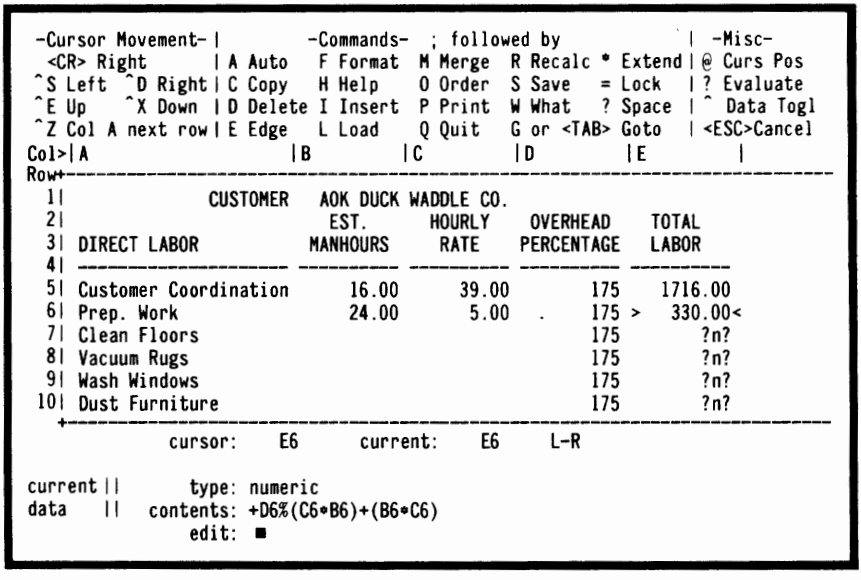
8.5 COPYING RELATIVE EQUATIONS

Now go to cell E6. You are going to determine the TOTAL LABOR cost of your Prep. Work. Since the TOTAL LABOR is determined in the same manner throughout the DIRECT LABOR category, the equation in cell E5, TOTAL LABOR for Customer Coordination, can be copied throughout the TOTAL LABOR COLUMN.

Use the Copy Command to copy the equation from E5 to cells E6>E12. Make sure you have CalcStar adjust the equation for relative adjustment.

CalcStar will adjust the equation so it is relative to the cells it is copied into. For example, move the cursor to cell E5. The contents line should read: **+D5%(C5*B5)+(B5*C5)**. Now move the cursor to cell E6. The contents line at E6 should read: **+D6%(C6*B6)+(B6*C6)**. CalcStar adjusted the equation so it was relative at cell E6. The same changes were made to the equation in each cell the equation was entered into.

Compare your screen to the illustration.



8.6 THE MEANING OF ?n?

You will notice that in cells E7 through E12, the characters ?n? appeared. This means that for some reason or another CalcStar was not able to complete the calculation that was entered into that cell. In this case, the calculations were not completed because there are no values in cells B7 through B12 and C7 through C12. When values are entered into these cells, the equations can be recalculated and the ?n? will be replaced with the solution to the equation.

8.7 DIRECT LABOR COSTS CONTINUED

The next division of DIRECT LABOR is Clean Floors. The AOK Duck Waddle Company has a lot of tile floors: almost fifteen stories worth. It will take your company approximately 40 hours to clean all of the floors at a cost of $15 per hour. Move the cursor to the proper column and enter the EST. MANHOURS and HOURLY RATE for Clean Floors.

STEP 1

Now that you have entered the values into this category, the TOTAL LABOR can be recalculated using the Recalculate Command. Move the cursor to cell E7. Recalculate the entry.

TYPE **;R**

When the prompt reads:

Recalculate: A)ll E)ntry

TYPE **E**

The value 1650.00 will appear in cell E7.

STEP 2

There are five categories left under TOTAL LABOR. Let's see how well you can do on your own.

It will take 36 hours to vacuum all of the rugs in the AOK Duck Waddle Building at a cost of $21 per hour.

The task of washing the windows was subcontracted to Tom's Window Washers. Make sure your enter 0 in the proper cells.

It will cost $8 per hour to dust the company's furniture. The dusting should take 36 hours.

Wall washers cost you $12 per hour. It will take them 54 hours to wash the interior walls of the building.

The final chore is cleaning the restrooms. It's a bargain at $10 per hour, and it will only take 24 hours.

STEP 3

Now recalculate the values in E8 through E12.

TYPE **;R**

When the prompt reads:

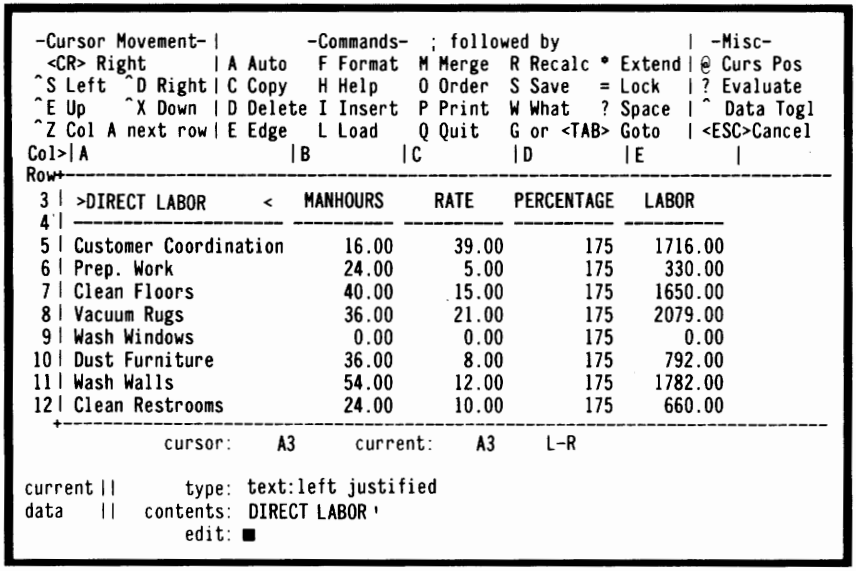
Recalculate: A)ll E)ntry

TYPE **A**

Move the cursor to cell A3. You are going to use the Edge Command so you can see your entries. With the cursor at A3,

TYPE **;E**

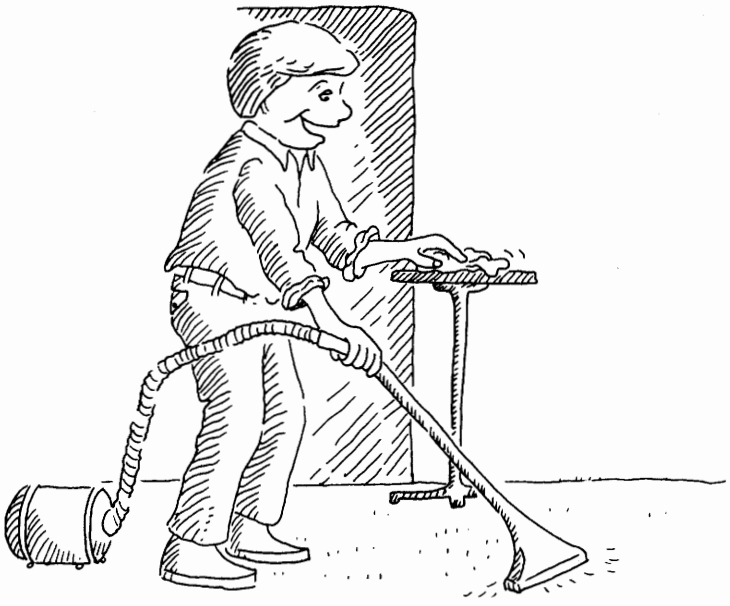
Compare your screen to the illustration.



The ?n? in cells E8 through E12 will be replaced with the values 2079.00, 0.00, 792.00, 1782.00, and 660.00, respectively.

8.8 STOPPING BEFORE A FILE IS COMPLETED

You have now completed the first section of your job cost estimating sheet. If you do not wish to continue entering this example right now, use the Save Command. Save the file under the name of JOBCOST and use the Quit Command to exit the CalcStar program. See section 7.6, Saving a File, and section 7.9, The Quit Command. If you wish to continue with this example without quitting, go to Chapter 9, section 9.2.



9 ESTIMATING A JOB COST—PART II

9.0 INTRODUCTION

In this section you will continue with the example ESTIMATING A JOB COST. Get the CalcStar window onto your screen.

TYPE **CS**

PRESS **RETURN**

9.1 LOADING A FILE

All files are assigned names when they are saved onto a disk. To get the file from the disk onto your screen, the file must be loaded into the computer's memory.

STEP 1

TYPE **;L**

The prompt will read:

File name: (make sure file is saved)

STEP 2

TYPE **JOBCOST**

PRESS **RETURN**

The prompt will read:

Load position: A1

STEP 3

PRESS **RETURN**

The JOBCOST worksheet will appear on your screen.

9.2 ESTIMATING MATERIALS AND SUPPLIES

The second category on your job cost estimating sheet is MATERIALS & SUPPLIES. Move the cursor to cell A15.

TYPE **MATERIALS & SUPPLIES**

PRESS **RETURN**

STEP 1

The column headings under MATERIALS & SUPPLIES are: COST, MATERIAL HANDLING, AND TOTAL MATERIAL. Move the cursor to cell C15, where you will begin entering COST.

TYPE **/CCOST**

PRESS **RETURN**

Move the cursor to cell D14. The next column heading is MATERIAL HANDLING. Since the two words will not fit in one cell, MATERIAL will be centered in the cell above HANDLING.

In cell D14,

TYPE **/CMATERIAL**

PRESS **RETURN**

In cell D15,

TYPE **/CHANDLING**

PRESS **RETURN**

Enter the final heading, TOTAL MATERIAL in cells E14 and E15.

TYPE **/CTOTAL**

PRESS **RETURN**

TYPE **/CMATERIAL**

PRESS **RETURN**

Move the cursor to cell A16 and use the Repeat Function and Copy Command to underline the column headings.

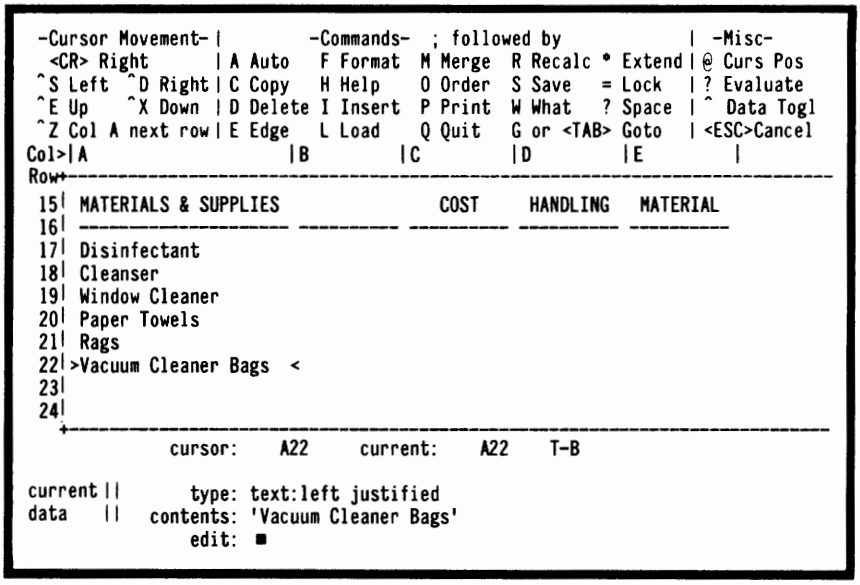
STEP 2

What types of materials and supplies do janitorial services use? They use disinfectant, cleanser, window cleaner, rags, paper towels, mops, brooms, and vacuum cleaners. You can't charge your customers the price of a vacuum cleaner each time you vacuum on a job, but you can charge for such items as vacuum cleaner bags and filters.

So in the category MATERIALS & SUPPLIES, you will enter the disposable items used in the completion of the job. These items are: disinfectant, cleanser, window cleaner, paper towels, rags, and vacuum cleaner bags.

If the direction indicator below the window is L-R, use the Order Command to change the direction to T-B.

Enter these items in cells A17>A22. Compare your screen to the illustration.



9.3 ESTIMATING MATERIAL AND SUPPLY COSTS

You are now finished entering the categories into the MATERIALS & SUPPLIES section of your job cost estimating sheet. It is time to enter the cost of these materials.

Change the direction of the cursor back to L-R by using the Order Command.

Move the cursor to cell C17. You are going to enter the cost of the disinfectant to be used on this job. The disinfectant you will be using costs $50 per drum and you will need three drums.

TYPE **150**

PRESS **RETURN**

Move the cursor to cell D17. The Material Handling is 10%.

TYPE **10**

PRESS **RETURN**

STEP 1

The MATERIAL HANDLING will be the same for each entry in the MATERIAL HANDLING column. Use the Copy Command to enter the MATERIAL HANDLING percentage in the proper cells.

STEP 2

Now you are going to determine the TOTAL MATERIAL cost. Move the cursor to cell E17. The equation is +D17%(C17)+C17.

STEP 3

Now copy the equation from cell E17 to cells E18 through E22. Make sure the equation is copied relative to its position.

STEP 4

When the AOK Duck Waddle Building is finally clean, your company will have used $98 worth of vacuum cleaner bags, $120 worth of cleanser, $320 worth of paper towels, and $210 worth of rags.

Enter the above information in the proper cells and recalculate the values in the TOTAL MATERIAL column using the Recalculate Command. Compare your entries to the illustration.

```
 -Cursor Movement- |        -Commands-  ; followed by            | -Misc-
  <CR> Right       | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
 ^S Left  ^D Right | C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
 ^E Up    ^X Down  | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
 ^Z Col A next row | E Edge   L Load    Q Quit   G or <TAB> Goto  | <ESC>Cancel
Col>|A                    |B         |C         |D         |E         |
Row+-------------------------------------------------------------------------
 15| MATERIALS & SUPPLIES              COST      HANDLING   MATERIAL
 16| ------------------- ---------- ---------- ---------- ----------
 17| Disinfectant                       150.00         10     165.00
 18| Cleanser                           120.00         10     132.00
 19| Window Cleaner                       0.00         10       0.00
 20| Paper Towels                       320.00         10     352.00
 21| Rags                               210.00         10     231.00
 22| Vacuum Cleaner Bags          >      98.00<        10     107.80
 23|
 24|
   +-------------------------------------------------------------------------
             cursor:    C22     current:    C22    L-R

current ||      type: numeric
data    ||  contents: 98
              edit: ■
```

9.4 ESTIMATING SUBCONTRACT LABOR

The next section on your worksheet is for SUBCONTRACT LABOR. Move the cursor to cell A25.

TYPE **SUBCONTRACT LABOR**

PRESS **RETURN**

STEP 1

The column headings for this section are: ESTIMATED MANHOURS, HOURLY RATE, OVERHEAD PERCENTAGE, and TOTAL LABOR. These are the same headings as in the DIRECT LABOR section. To save yourself time, you can copy the headings from the first section into this section. The first part of the headings are contained in cells B2>E2. Copy these into cells B24>E24. The second part of the headings are in cells B3>E3. Copy these into cells B25>E25.

Place a line under the column headings.

STEP 2

On this job, only one subcontractor is needed. Tom's Window Washers have been hired to clean the windows. Move the cursor to cell A27.

TYPE **Tom's Window Washers**

PRESS **RETURN**

STEP 3

It will take Tom and his window washers 64 hours to wash all of the windows on the AOK Duck Waddle Building at a cost of $25 per hour with an overhead of 50%.

Enter this information in the proper cells. Copy the equation from cell E5 to cell E27 and make sure it is relative to its new position. Compare your screen to the illustration.

```
 -Cursor Movement-|         -Commands-  ; followed by            | -Misc-
  <CR> Right      | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
 ^S Left  ^D Right| C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
 ^E Up    ^X Down | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
 ^Z Col A next row| E Edge   L Load    Q Quit   G or <TAB> Goto  | <ESC>Cancel
Col>|A                  |B         |C         |D         |E         |
Row+-------------------------------------------------------------------------
 20| Paper Towels                          320.00         10     352.00
 21| Rags                                  210.00         10     231.00
 22| Vacuum Cleaner Bags                    98.00         10     107.80
 23|
 24|                          EST.       HOURLY    OVERHEAD    TOTAL
 25| SUBCONTRACT LABOR      MANHOURS      RATE    PERCENTAGE   LABOR
 26| -------------------- ---------- ---------- ---------- ----------
 27| Tom's Window Washers       64.00      25.00         50>   2400.00<
 28|
 29|
   +-------------------------------------------------------------------------
             cursor:    E27     current:    E27    L-R

current||      type: numeric
data   ||  contents: +D27%(C27*B27)+(B27*C27)
              edit: ■
```

STEP 4

If you did the above correctly, the value 2400.00 should have appeared in cell E27.

Leave a few blank lines below Tom's Window Washers, just in case you decide to subcontract other parts of the job later on.

9.5 ESTIMATING TRAVEL AND ENTERTAINMENT EXPENSE

TRAVEL/ENTERTAINMENT is the fourth section of your worksheet. Move the cursor to cell A32.

TYPE **TRAVEL/ENTERTAINMENT**

PRESS **RETURN**

STEP 1

Beginning in cell C32, enter the column headings for this section. They are: EXPENSE, T & E HANDLING, and TOTAL T&E EXPENSE. Center T & E above HANDLING and TOTAL T&E above EXPENSE.

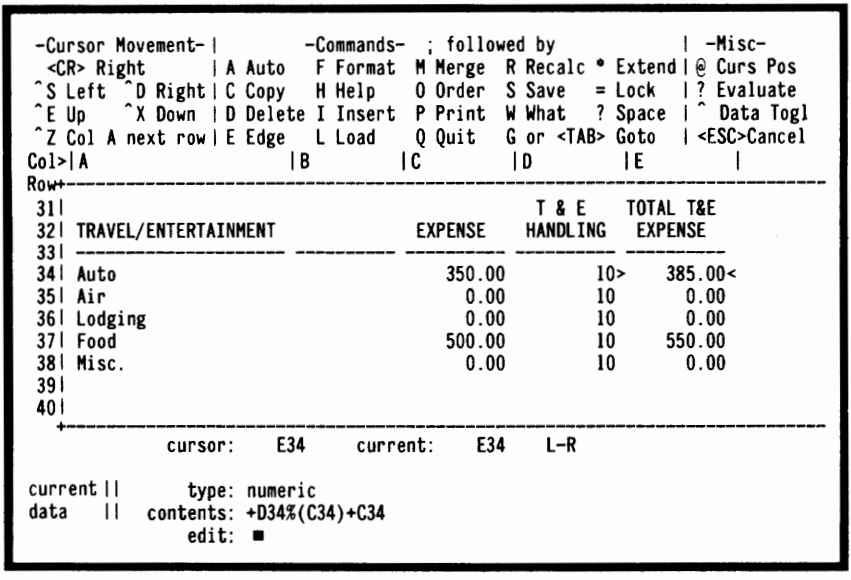
Once you have completed entering the column headings, underline them. Now, move the cursor to cell A34,

change the direction of the cursor from L-R to T-B and enter the row labels. The row labels are: Auto, Air, Lodging, Food, and Misc.

Move the cursor to cell C34 and begin entering the following information:

You did not log any air time, nor were there any lodging or misc. expenses. There were auto and food expenses though. Auto expenses totalled $350 and food expenses totalled $500. The handling costs in the TRAVEL & ENTERTAINMENT section are 10%. Enter these figures into the proper cells and determine the TOTAL EXPENSE for each of them.

Compare your screen to the illustration.



9.6 ESTIMATING MISCELLANEOUS COSTS

The final cost section of your job estimate worksheet is for Miscellaneous Expenses. Move the cursor to cell A42.

TYPE **MISCELLANEOUS**

PRESS **RETURN**

The categories in this section are: COST, PERCENTAGE OVERHEAD, and TOTAL MISCELLANEOUS.

After you have completed entering the column headings, underline the headings. Move the cursor to cell E44 and enter 0 since there are no Miscellaneous costs on this job. Now compare your screen to the illustration.

```
 -Cursor Movement- |        -Commands-  ; followed by           | -Misc-
  <CR> Right      | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
 ^S Left  ^D Right| C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
 ^E Up    ^X Down | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
 ^Z Col A next row| E Edge   L Load    Q Quit   G or <TAB> Goto   | <ESC>Cancel
Col>|A                  |B         |C         |D         |E         |
Row+-------------------------------------------------------------------------
 37 | Food                                 500.00         10     550.00
 38 | Misc.                                  0.00         10       0.00
 39 |
 40 |
 41 |                                                PERCENTAGE   TOTAL
 42 | MISCELLANEOUS                          COST     OVERHEAD    MISC.
 43 | -------------------- ---------- ---------- ---------- ----------
 44 |                                                       >       0.00<
 45 |
 46 |
   +-------------------------------------------------------------------------
             cursor:    E44     current:    E44    L-R

current ||      type: numeric
data    ||  contents: 0
               edit: ■
```

9.7 DETERMINING TOTAL COST OF THE PROJECT

Now that you have entered all of the information in the different cost categories of your job cost estimating sheet, you need to total your costs.

STEP 1

This section will be headed PROJECT TOTALS. PROJECT TOTALS will contain the columns: $ and % OF TOTAL.

Move the cursor to cell A47.

TYPE **PROJECT TOTALS**

PRESS **RETURN**

In cell B47,

TYPE **/C$**

PRESS **RETURN**

In cell C47,

TYPE **/C% OF TOTAL**

PRESS **RETURN**

Now underline the column headings with =’s.

STEP 2

You now need to enter the categories under the heading PROJECT TOTALS. These are: DIRECT LABOR, MATERIAL, S.C. LABOR, T & E, and MISCELLANEOUS.

Enter these headings in cells A49 through A53. Place an underline in cells A54-C54, and a double underline in cell B56. Now enter TOTAL PROJECT COST in cell A55.

Compare your screen to the illustration below.

```
 -Cursor Movement- |         -Commands-  ; followed by            | -Misc-
  <CR> Right       | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
 ^S Left  ^D Right | C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
 ^E Up    ^X Down  | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
 ^Z Col A next row | E Edge   L Load    Q Quit   G or <TAB> Goto   | <ESC>Cancel
Col>|A                    |B         |C         |D         |E         |
Row+-------------------------------------------------------------------------
 47 | PROJECT TOTALS            $      % OF TOTAL
 48 | ================== ========== ==========
 49 | DIRECT LABOR
 50 | MATERIAL
 51 | S. C. LABOR
 52 | T & E
 53 | MISCELLANEOUS
 54 | ------------------ ---------- ----------
 55 |>TOTAL PROJECT COST   <
 56 |                      ==========
   +-------------------------------------------------------------------------
             cursor:    A55     current:    A55    L-R

current ||       type: text:left justified
data    ||   contents: 'TOTAL PROJECT COST'
             edit: ■
```

STEP 3

To determine your PROJECT TOTALS you will use the System Function **SUM(list/range)**. In this case you will be summing ranges of cells.

Move the cursor to cell B49. You will enter the TOTAL DIRECT LABOR COST in this cell. To determine the TOTAL DIRECT LABOR COST, you must add together all of the categorized DIRECT LABOR TOTALS in cells E5 through E12.

TYPE **+SUM(E5>E12)**

PRESS **RETURN**

The value 9009.00 will appear in cell B49.

Move the cursor to cell B50. The label MATERIAL is in cell A50. To determine the MATERIAL TOTAL, sum cells E17 through E22.

TYPE **+SUM(E17>E22)**

PRESS **RETURN**

Now enter the rest of the project totals and determine the TOTAL PROJECT COST. Copy the Subcontract Labor total from cell E27. Sum the T & E TOTAL from cells E34>E38. Copy the MISCELLANEOUS TOTAL from cell E44. Compare your screen to the illustration.

```
-Cursor Movement- |        -Commands-  ; followed by           | -Misc-
 <CR> Right      | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
^S Left  ^D Right| C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
^E Up    ^X Down | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
^Z Col A next row| E Edge   L Load    Q Quit   G or <TAB> Goto  | <ESC>Cancel
Col>|A                  |B         |C         |D         |E        |
Row+-------------------------------------------------------------------------
 47| PROJECT TOTALS           $      % OF TOTAL
 48| ================== ========== ==========
 49| DIRECT LABOR           9009.00
 50| MATERIAL                987.80
 51| S. C. LABOR            2400.00
 52| T & E                   935.00
 53| MISCELLANEOUS             0.00
 54| ------------------ ----------  ---------
 55| TOTAL PROJECT COST   >  13331.80<
 56|                      ==========
  +-------------------------------------------------------------------------
            cursor:    B55     current:    B55    L-R

current||      type: numeric
data   ||  contents: +SUM(B49>B53)
              edit: ■
```

STEP 4

There is still one more column in the PROJECT TOTAL section labeled % OF TOTAL. To determine the Per-

centage of the Total of each category you need to divide the TOTAL PROJECT COST by the TOTAL of each category.

Move the cursor to cell C49.

TYPE **(B49/B55!)*100**

PRESS **RETURN**

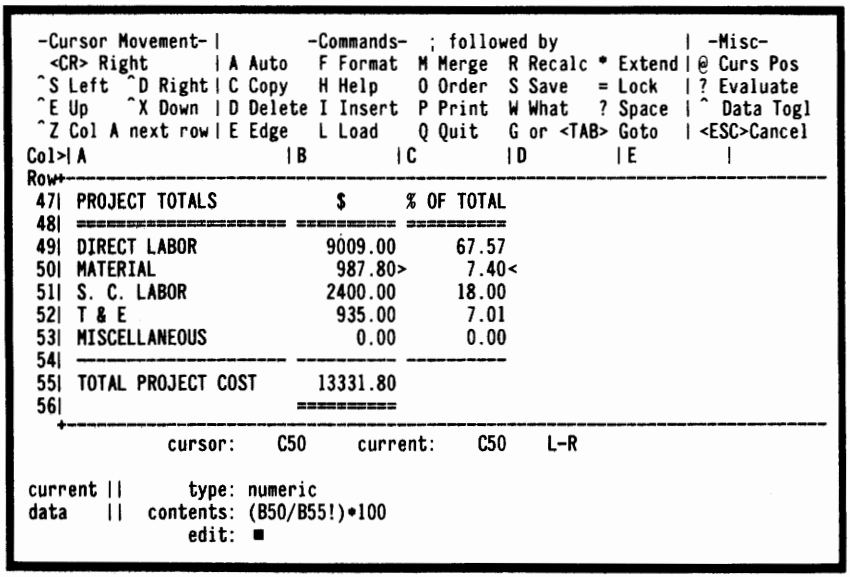
The value 67.57 will appear in cell C49. This means that DIRECT LABOR costs are 67% of your PROJECT COST.

You will notice there is a ! following B55 in the above equation. The ! tells CalcStar not to adjust this cell when using the Copy Command in relative situations. For example, copy the equation from cell C49 to cells C50 through C53.

Move the cursor to cell C50, the contents line reads:

(B50/B55!)*100

CalcStar adjusted the first value with respect to the cell but not the B55!. CalcStar will not adjust information followed by a !. Compare your screen to the illustration.



9.8 USING THE /P FUNCTION

You have determined how much it will cost your company to clean the AOK Duck Waddle Building, but you still need to determine what you are going to charge the company for your services. Since this is different than determining the TOTAL PROJECT COST, you will print the information on a different page.

In the first completely blank line following the TOTAL PROJECT COST you will enter the Page Function. Move the cursor to cell A57.

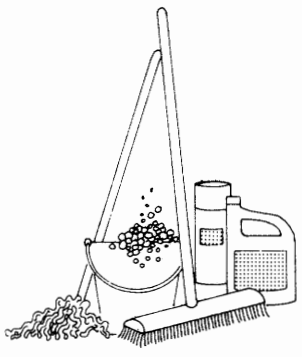
TYPE **/P**

PRESS **RETURN**

When CalcStar comes across this function while printing, the printer will force a paper feed and the information following the /P will continue printing on the next page.

9.9 CHAPTER REVIEW

You have now completed 2 of the 3 parts of the Job Cost Estimating example. If you wish to quit for a while, use the Save Command and the Quit Command. When you want to restart this example, begin at section 10.0. If you wish to continue this example without quitting, turn to Chapter 10, section 10.2.



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10 ESTIMATING A JOB COST—PART III

10.0 INTRODUCTION

This is the final part of the Job Cost Estimating example. Get the CalcStar window on your screen.

TYPE **CS**

PRESS **RETURN**

10.1 LOADING A FILE

All files are assigned names when they are saved onto a disk. To get the file from the disk onto your screen, the file must be loaded into the computer's memory.

STEP 1

TYPE **;L**

The prompt will read:

File name: (make sure file is saved)

STEP 2

TYPE **JOBCOST**

PRESS **RETURN**

The prompt will read:

Load position : A1

STEP 3

PRESS **RETURN**

The JOBCOST worksheet will appear on your screen.

10.2 DETERMINING MARKUP

STEP 1

Move the cursor to cell A58.

TYPE **/RUSING MARKUP TO**

PRESS **RETURN**

STEP 2

Move the cursor to cell B58.

TYPE **DETERMINE**

PRESS **RETURN**

STEP 3

Move the cursor to cell C58.

TYPE **SALE PRICE**

PRESS **RETURN**

STEP 4

Underline the heading with -'s.

10.3 PROJECT COST

The first entry in this category is PROJECT COST. Move the cursor to cell A60.

TYPE **PROJECT COST**

PRESS **RETURN**

Enter the PROJECT COST in cell C60.

TYPE +**B55**

PRESS **RETURN**

STEP 1

Move the cursor to cell A61. The next entry in this category is % MARKUP.

TYPE **% MARKUP**

PRESS **RETURN**

In this case, you want a Markup of 50%. In cell C61,

TYPE **50**

PRESS **RETURN**

Using the Format Command, change the decimal precision for this entry only.

TYPE **;F**

When the prompt reads:

W)idth (10) or P)recision (2) or F)orm mode (clear)

TYPE **P**

When the prompt reads:

Column C Precision (0..12) :

TYPE **E0**

PRESS **RETURN**

By placing an E in front of the desired decimal precision, the precision was changed only in the current cursor location. In this case, cell C61. Now underline the three columns.

STEP 2

Move the cursor to cell A63.

TYPE **SALE PRICE**

PRESS **RETURN**

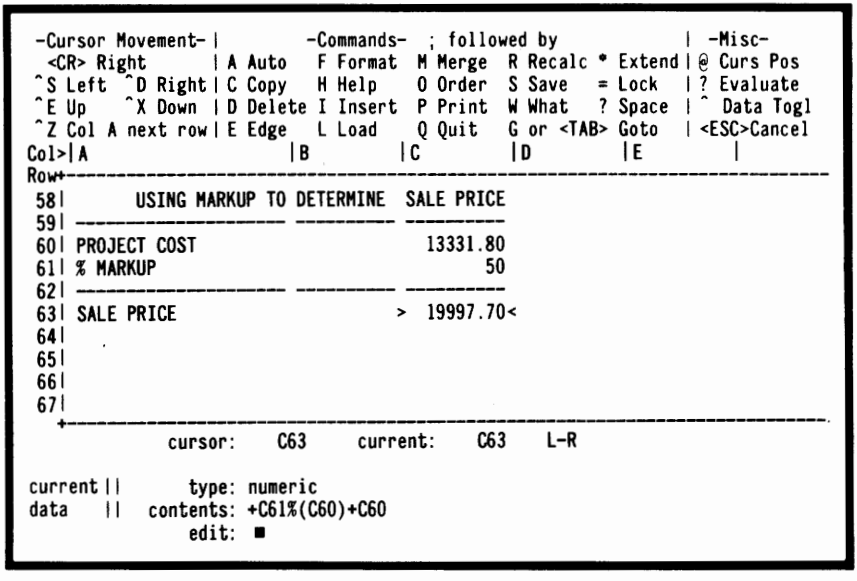
STEP 3

To determine the SALE PRICE, move the cursor to cell C63.

TYPE **+C61%(C60)+C60**

PRESS **RETURN**

The value 19997.70 should appear in cell C63. Compare your screen to the illustration.



10.4 DETERMINING ACTUAL PROFIT

Now you are going to determine your actual profit. Title this category, DETERMINING PROFIT, in cell A66.

STEP 1

TYPE **DETERMINING PROFIT**

PRESS **RETURN**

Move the cursor to cell A67.

TYPE /==

PRESS **RETURN**

Move the cursor to cell A68.

TYPE **SALE PRICE**

PRESS **RETURN**

Move the cursor to cell A69.

TYPE **PROJECT COST**

PRESS **RETURN**

Move the cursor to cell A70.

TYPE /=-

PRESS **RETURN**

Move the cursor to cell A71.

TYPE **PROFIT**

PRESS **RETURN**

STEP 2

Enter +C63 in cell C68. Enter +C60 in cell C69. Underline the column with -'s.

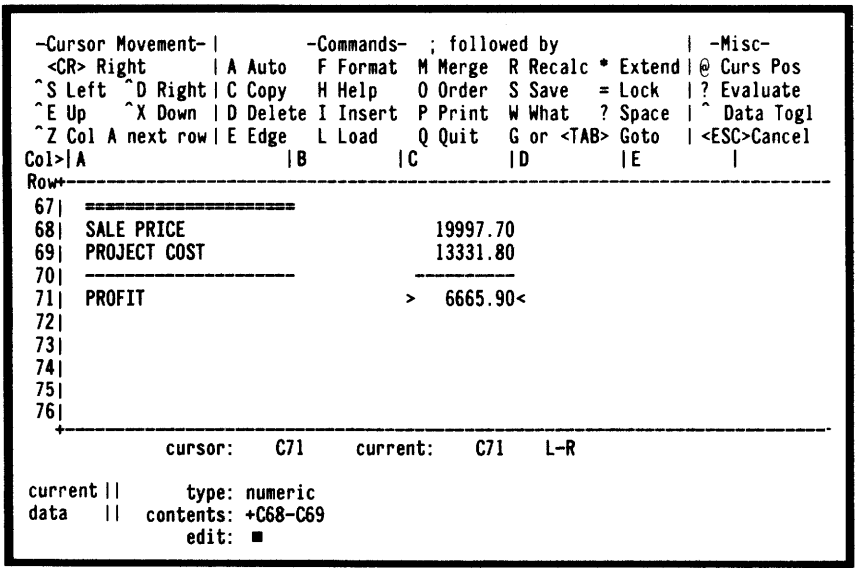
STEP 3

To determine the profit, you will subtract the contents of cell C69 from the contents of cell C68. In cell C71,

TYPE **+C68–C69**

PRESS **RETURN**

You will make a profit of $6,665.90 from cleaning the AOK Duck Waddle Building. Compare your screen to the illustration.



10.5 DETERMINING SALES TOTALS

Just a few more calculations and you will have completed the Job Cost Estimating example.

STEP 1

Move the cursor to cell A77.

TYPE **SALES TOTALS**

PRESS **RETURN**

Move the cursor to cell B77.

TYPE **/C$**

PRESS **RETURN**

Move the cursor to cell C77.

TYPE % **OF TOTAL**

PRESS **RETURN**

Underline the column headings with ='s.

STEP 2

Move the cursor to cell A79. Copy the category labels from A49>A53 to A79>A83.

STEP 3

Now copy the values from B49>B53 to B79>B83. When the prompt asks if the values are to be adjusted relative to their new cell locations, enter N for No adjustment.

STEP 4

You need to put another row in this category. Move the cursor to cell A84.

TYPE **PROFIT**

PRESS **RETURN**

Move the cursor to cell B84.

TYPE +**C71**

PRESS **RETURN**

Underline the columns.

Move the cursor to cell A86.

TYPE **TOTAL SALE PRICE**

PRESS **RETURN**

STEP 5

Move the cursor to cell B86 to sum the column.

TYPE +**SUM(B79>B84)**

PRESS **RETURN**

The TOTAL SALE PRICE is $19,997.70. It will cost the AOK Duck Waddle Company $19,997.70 to have their offices cleaned by your janitorial service.

STEP 6

There is one last column entitled % OF TOTAL. The entries in this column are similar to those in the % OF TOTAL column under PROJECT TOTALS.

Move the cursor to cell C79.

TYPE **(B79/B86!)*100**

PRESS **RETURN**

Copy the equation into cells C80 through C84, using the relative adjustment. Compare your screen to the illustration.

```
-Cursor Movement- |        -Commands-  ; followed by          | -Misc-
  <CR> Right      | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
 ^S Left  ^D Right| C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
 ^E Up    ^X Down | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
 ^Z Col A next row| E Edge   L Load    Q Quit   G or <TAB> Goto  | <ESC>Cancel
Col>| A                  | B         | C         | D        | E        |
Row+-------------------------------------------------------------------------
 77| SALES TOTALS              $       % OF TOTAL
 78| ================== ========= ==========
 79| DIRECT LABOR             9009.00>      45.05<
 80| MATERIAL                  987.80        4.93
 81| S. C. LABOR              2400.00       12.00
 82| T & E                     935.00        4.67
 83| MISC.                       0.00        0.00
 84| PROFIT                   6665.90       33.33
 85| ------------------ --------- ----------
 86| TOTAL SALE PRICE        19997.70
   +-------------------------------------------------------------------------
             cursor:    C79     current:    C79    L-R

current         type: numeric
data        contents: (B79/B86!)*100
               edit: ■
```

10.6 SAVING A FILE

Now you are going to save the file.

STEP 1

TYPE **;S**

If the file has been saved previously, the prompt will read:

File name : JOBCOST

PRESS **RETURN**

The next prompt will read:

File exists. Destroy old contents (Y/N)?

TYPE **Y**

If this file was never previously saved, you should:

STEP 2

TYPE **JOBCOST**

PRESS **RETURN**

The prompt will read:

Password (<CR>=none)

OPTIONAL

A password can contain no more than eight characters. If you want to protect your file with a password,

TYPE **the password**

PRESS **RETURN**

If a password is entered, the prompt will read:

Again :

TYPE **the password again**

STEP 3

If you do not wish to protect your file with a password,

PRESS **RETURN**

STEP 4

The prompt will read:

P)artial or A)ll

STEP 5

TYPE **A**

The file will begin saving once the A is typed.

10.7 USING THE QUIT COMMAND

Now you can use the Quit Command to quit the file.

TYPE **;Q**

When the prompt reads:

verify Y/N -

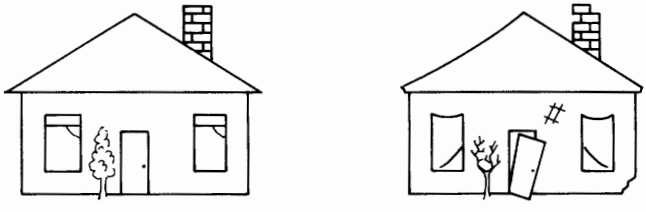
TYPE **Y**

The CalcStar window will disappear from the screen and the system prompt will appear on your screen.

11 DEMONSTRATING ASSET DEPRECIATION

11.0 INTRODUCTION

This example deals with asset depreciation. You will be introduced to the Automatic Form Command and to Conditional Functions. This application will not take as much time to execute as the others did because it is already completed on your CalcStar program disk.



11.1 TURNING ON CalcStar

The file you will be loading into CalcStar is entitled DEMO. Get the CalcStar worksheet on to your screen.

TYPE **CS**

PRESS **RETURN**

11.2 LOADING THE DEMO FILE

All files are assigned names when they are saved onto a disk. To get the file from the disk onto your screen, the file must be loaded into the computer's memory.

STEP 1

TYPE **;L**

The prompt will read:

File name: (make sure file is saved)

STEP 2

TYPE **DEMO**

PRESS **RETURN**

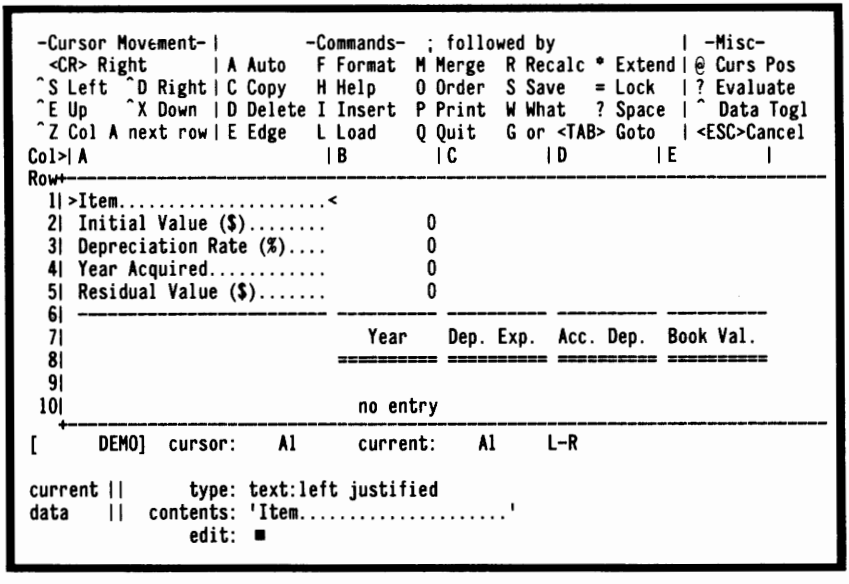
The prompt will read:

Load position : A1

STEP 3

PRESS **RETURN**

The DEMO worksheet will appear on your screen.



11.3 THE AUTOMATIC FORM COMMAND

The Automatic Form Command is used in conjunction with the Format Command. By using the Format Command, the cursor's course can be preset. The Automatic Form Command is then used to start the cursor along the preset course. The cursor will stop at each pre-specified cell, allowing you to enter new information into the cell. When the cursor's course is complete, the values on the worksheet will be automatically recalculated using the new entries.

STEP 1

The Format Command has already been used to preset the cursor course for the DEMO worksheet, so you only need to use the Automatic Form Command to get the cursor started.

TYPE **;A**

The cursor will go to cell B1.

You will place the type of item you are depreciating in this cell. In this case you are depreciating a 4-Wheel-Drive Truck. Enter 4WD TRUCK into cell B1 as a text entry using the Text Numeric Data Toggle.

TYPE **4WD TRUCK^**

PRESS **RETURN**

STEP 2

The cursor has now moved to the next preset cell. That cell is B2. Enter the initial value of the truck. It is worth $14,500.

TYPE **14500**

PRESS **RETURN**

STEP 3

The cursor is now at cell B3. The depreciation rate of your new truck is 25%.

TYPE **25**

PRESS **RETURN**

STEP 4

The cursor is now at cell B4. The truck was purchased in October of 1982.

TYPE **1982**

PRESS **RETURN**

STEP 5

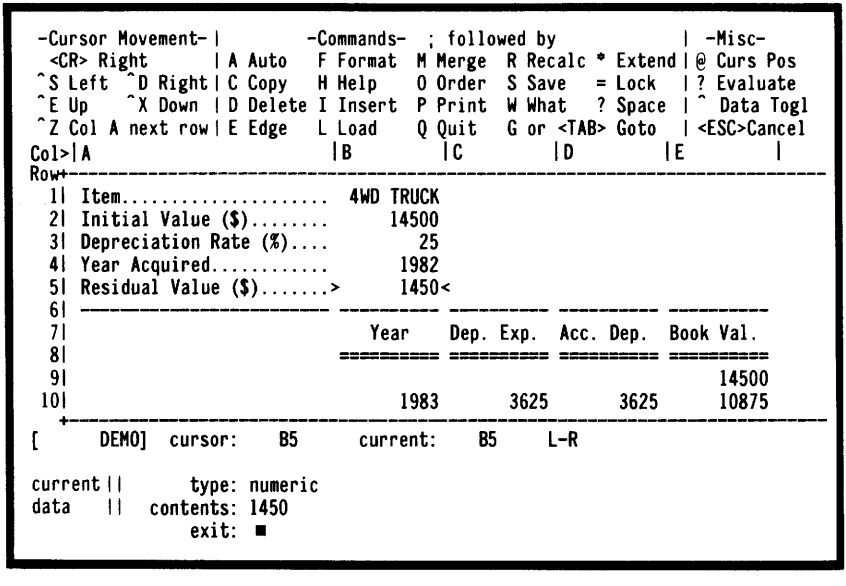
The cursor is now at cell B5. Enter the residual value of the truck, which is $1,450.00.

TYPE **1450**

PRESS **RETURN**

STEP 6

CalcStar will now automatically recalculate the values in your worksheet and the depreciation for your new 4-Wheel-Drive Truck will be figured and displayed on your screen.



11.4 CONDITIONAL FUNCTIONS

That was pretty tricky, wasn't it? You are probably wondering how a blank worksheet suddenly filled with values. Well, to begin with, the worksheet was not really blank, it just appeared that way.

To get a better understanding of what was actually on the seemingly empty worksheet, move the cursor to cell B10. On the contents line appears the equation:

+B2=0:"no entry":+B4+1

What the equation means is:

If the value contained in cell B2 equals 0, then enter the text 'no entry' into cell B10, but if the value contained in cell B2 does not equal zero, add 1 to the value contained in cell B4 and display it at cell B10.

The equation contained in cell B10 illustrates an **IF, THEN, ELSE** Conditional Function.

So, move the cursor to cell C11. The contents line reads:

+B2=0:" ":+B3%E10

What the equation means is:

If the value contained in cell B2 equals 0, then leave cell C11 blank, but if cell B2 does not equal 0, then multiply the value in B3 as a percentage by the value contained in cell E10 and enter the value into cell C11.

Cells B10 through E19 contain conditional functions. When a value greater than 0 is entered into cell B2, 'Initial Value', values will begin appearing in the other cells, because of the use of Conditional Functions after the final cell, B5, in the Automatic Form mode is filled in.

Conditional Functions are really not as complicated as they sound. It gives you a chance to place conditions on your data. For example, in this application, the 'Book Value' will be listed until it is less than the

'Residual Value.' For more information about Conditional Functions, see Chapter 14.

11.5 SAVING AND PRINTING THE WORKSHEET

Use the Save Command to save your worksheet under the name 4WDTRUCK. After you have saved the file, print it to the printer.

11.6 QUITTING CalcStar

Use the Quit Command to exit the CalcStar Program and return to the operating system.

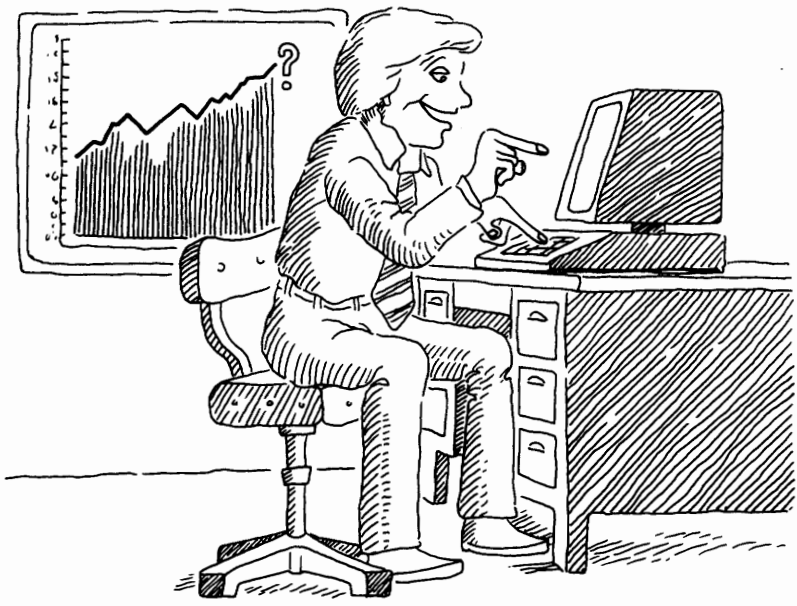
11.7 CHAPTER REVIEW

In this section you learned about the Automatic Form Command and about Conditional Functions. You also learned how to use CalcStar to depreciate your assets over a given period of time.

12 FORECASTING BUSINESS TRENDS

12.0 INTRODUCTION

In this application you will learn how to use the Linear Regression Functions, +REGR, +PROJ, +DEPD and +SLOPE to help you forecast business trends.



12.1 TURNING ON CalcStar

To get CalcStar onto your screen,

TYPE **CS**

PRESS **RETURN**

12.2 SETTING UP YOUR WORKSHEET

Before you can begin forecasting, you need to set up your worksheet.

STEP 1

Beginning in cell B1, enter the abbreviated names of the first six months of the year and right justify the entries.

STEP 2

After you have entered the months, move the cursor to cell B2 and enter a 1, in C2 a 2, and so on through the number six. Format the precision of each column to 0.

STEP 3

Format cell A4 to a width of 15 spaces and enter DISTRICT A. Below DISTRICT A, enter WIDGETS,and then under that entry, enter DOODADS.

STEP 4

In cell A8, enter ADVERTISING $$.

12.3 ENTERING PRODUCT SALES FIGURES

The WIDGET Sales Figures for January through June are: $300, $435, $650, $875, $1,200, and $1,440, respectively. Enter the amounts in cells B5 through G5. Remember, do not enter the $ or the ,.

The DOODAD Sales Figures for January through June are: $100, $92, $81, $64, $55, and $47, respectively. Enter the amounts in cells B6 through G6.

12.4 ENTERING ADVERTISING DOLLARS

The company spent $8,445 on advertising during the first six months of the year. It was broken down as follows: $1,230, $1,300, $1,435, $1,450, $1,510, and $1,530.

Enter the amounts in cells B8 through G8.

12.5 USING CalcStar's FORECASTING CAPABILITIES

You have now completed entering the information necessary to perform the regression functions. Your screen should look like this:

```
 -Cursor Movement- |        -Commands-  ; followed by          | -Misc-
  <CR> Right       | A Auto   F Format  M Merge  R Recalc * Extend | @ Curs Pos
 ^S Left  ^D Right | C Copy   H Help    O Order  S Save   = Lock   | ? Evaluate
 ^E Up    ^X Down  | D Delete I Insert  P Print  W What   ? Space  | ^ Data Togl
 ^Z Col A next row | E Edge   L Load    Q Quit   G or <TAB> Goto  | <ESC>Cancel
Col>|D         |E         |F         |G         |H         |I         |
Row+-------------------------------------------------------------------------
  3|
  4|
  5|       650        875       1200       1440
  6|        81         64         55         47
  7|
  8|      1435       1450       1510>      1530<
  9|
 10|
 11|
 12|
   +-------------------------------------------------------------------------
              cursor:    G8      current:    G8     L-R

current ||       type: numeric
data    ||   contents: 1530
             edit: ■
```

The first function you will perform is called the Regression Function. This function must be performed prior to the use of any of the other Linear Functions, because this function computes the linear regression line that is used in the computation of the other linear functions.

12.6 THE REGRESSION FUNCTION

The Regression Function uses two types of variables, independent and dependent. The independent variable

does not rely on any other quantity for its value. The dependent variable relies upon the independent variable for its value.

12.7 USING THE REGRESSION FUNCTION ON WIDGETS

In this application, the number of the month is the independent variable and WIDGET Sales is the dependent variable.

Move the cursor to cell H5.

TYPE +**REGR(B2>G2,B5)**

PRESS **RETURN**

What you have just told CalcStar to do, is to perform the Regression Function using the range of values contained in cells B2>G2 as the independent variable. The dependent variable is the range of values beginning with cell B5. CalcStar knows that although you only entered B5, you mean the range of entries from B5 through G5.

If you are still a little confused, think of it this way. The amount of Sales of WIDGETS is dependent upon time. That is all you have entered.

The number 816.66 should have appeared in cell H5. The 816.66 is the mean or average value of the range of dependent values in the above regression equation. In other words, it is the average of sales of WIDGETS for six months.

12.8 THE PROJECTION FUNCTION

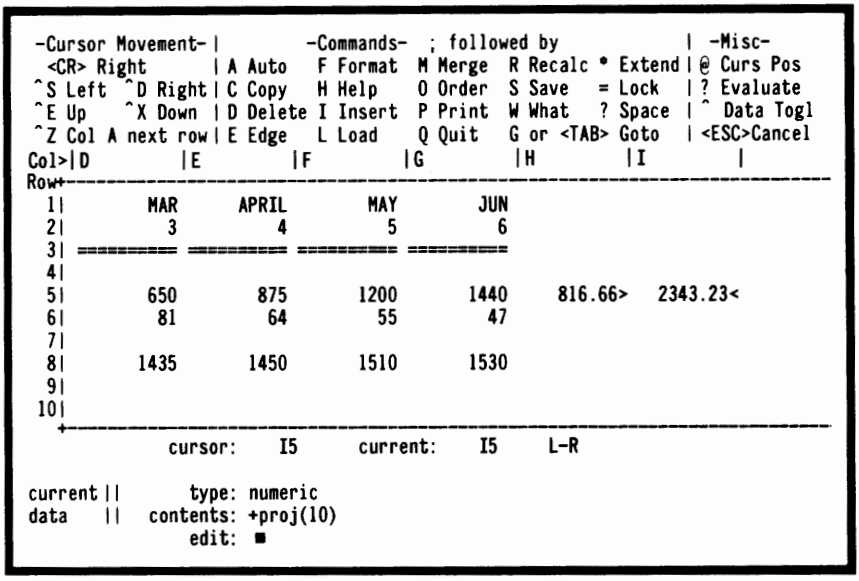
Move the cursor to cell I5. Now you are going to see why these Linear Functions are really useful. You are going to use the Projection Function to determine your projected sales of WIDGETS for the month of October, based on the data of the first six months of the year.

TYPE +**PROJ(10)**

PRESS **RETURN**

The number 10 was entered along with the Projection Function because October is the tenth month. CalcStar will now project sales for the month of October, based on the sales of January through June.

The value 2343.23 will appear in cell I5. Based on the first six months of the year, you can expect to have WIDGET sales of $2,343.23 in October. Compare your screen to the illustration.



12.9 USING THE REGRESSION FUNCTION ON DOODADS

This time you are going to determine the regression equation for DOODADS. Move the cursor to cell H6.

TYPE +**REGR(B2>G2,B6)**

PRESS **RETURN**

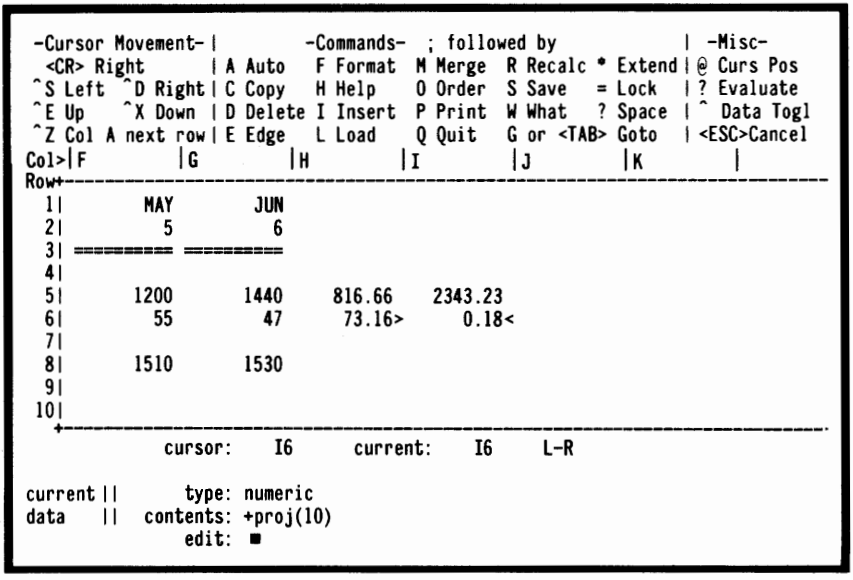
12.10 USING THE PROJECTION FUNCTION

Since you have determined the Regression Function, you can now project sales for the month of October for DOODADS. Move the cursor to cell I6.

TYPE +**PROJ(10)**

PRESS **RETURN**

The value 0.18 will appear in cell I6. DOODADS aren't selling very well. If you project sales for November or December, you will see that projected sales for these months is negative.



12.11 SALES AS A FUNCTION OF ADVERTISING

Move the cursor to cell H8. You are now going to determine the effect of advertising on WIDGET Sales.

TYPE **+REGR(B8>G8,B5)**

PRESS **RETURN**

12.12 USING THE DEPENDENT FUNCTION

Move the cursor to cell I8. You are going to determine how much money you need to spend on advertising to result in WIDGET sales of $2,000. You will use the dependent function because you are asking CalcStar for the value of the independent variable given the dependent variable 2000.

TYPE **+DEPD(2000)**

PRESS **RETURN**

You will need to spend $1,750.88 on advertising to reach a sales level of $2,000 for WIDGETS.

12.13 USING THE SLOPE FUNCTION

The Slope Function will give you the slope of the Regression Equation, which tells the rate at which the dependent variable is increasing (+) or decreasing (−) as a function of the independent variable.

Move the cursor to cell J8.

TYPE +**SLOPE()**

PRESS **RETURN**

The answer is 3.46.

Move the cursor to cell J6 and perform the Slope Function and then move the cursor to cell J5 and use the slope function one more time.

CalcStar computed the value 3.46 as the slope of all three functions. You know that can't possibly be correct and it isn't. CalcStar is set-up to use the last regression function entered when performing linear functions. Since the regression function at H8 was the last one entered, CalcStar thinks you are asking for the slope of that regression function. You can alleviate this problem by using the Recalculate Command.

TYPE **;R**

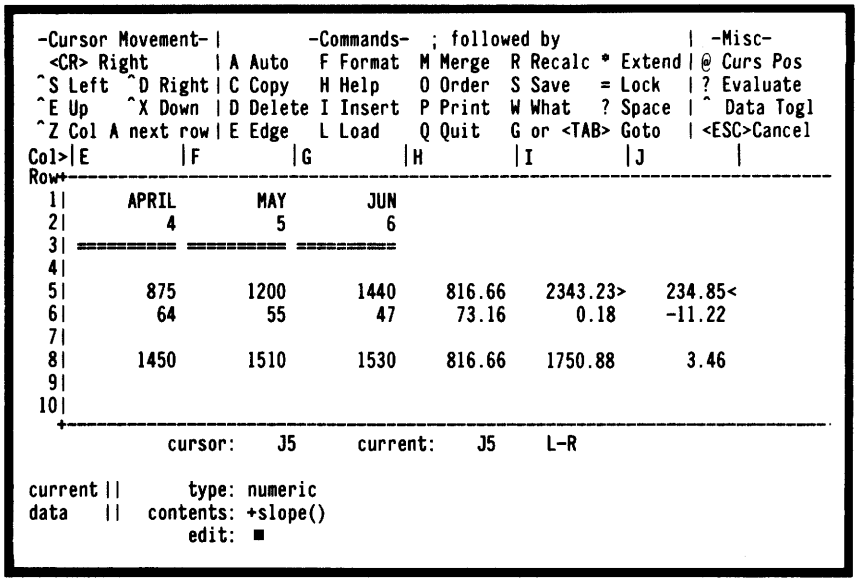
When the prompt reads:

Recalculate: A)ll E)ntry

TYPE **A**

It is a good idea to use the Recalculate Command each time you use a projection, dependent, or slope function.

The proper slopes will appear in their proper cells. Now you can get a rough estimate of the correlation between the values regressed against each other. For example, the second regression function results in a slope of −11.22. This tells you that DOODAD sales are decreasing about 11 units on the average per month. Compare your screen to the illustration.



12.14 SAVING AND PRINTING YOUR FILE

You have now completed this forecasting application of CalcStar. Save the file under the file name FORECAST and then print the file.

12.15 QUITTING CalcStar

Use the Quit Command and return to the operating system.

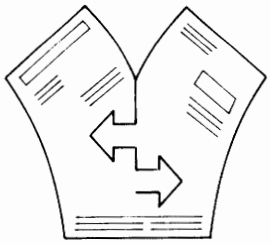
12.16 CHAPTER REVIEW

You are now familiar with the Linear Functions +REGR, +PROJ, +DEPD, and +SLOPE and can use them to forecast business trends.

13 PREPARING AN INCOME STATEMENT

13.0 INTRODUCTION

This application is on your CalcStar disk. You will see how an Income Statement is prepared and you will be introduced to the Merge Command.



13.1 TURNING CalcStar ON

To get CalcStar on your screen.

TYPE **CS**

PRESS **RETURN**

13.2 LOADING THE HELPER FILE

The file you need to load is called HELPER, and is contained on the CalcStar disk. Load HELPER into memory.

TYPE **;L**

When the prompt reads:

File name:

TYPE **HELPER**

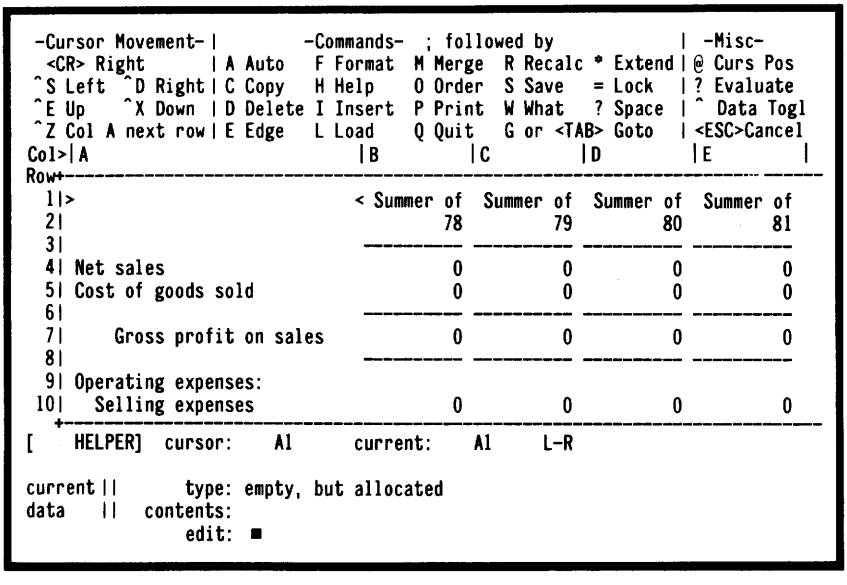
PRESS **RETURN**

When the prompt reads:

Load position > A1

PRESS **RETURN**

Compare your screen to the illustration.



13.3 PREPARING BOILERPLATES

As you can see, this file contains only basic headings and lines needed in an Income Statement. To complete the Income Statement, you need to enter information into the blank spaces.

There are two ways to do this. You can enter the information manually into the file as you set up the rows, columns, and headings, or you can set up the basic document form in one file and the information contained in the document in a different file.

In this application, the information to be included in this document has been entered into a file called HELP1. By using this method of entry into a document, you will have a boilerplate of a basic document that does not change or changes very little. This saves you time because you do not have to continually enter headings, lines, and equations. These entries are made only once.

13.4 MERGING FILES

It sounds great, right? But how is it done? CalcStar has the capability to merge files. To merge files, use the Merge Command.

STEP 1

TYPE **;M**

The prompt will read:

STEP 2

File name: (make sure file is saved)

TYPE **HELP1**

PRESS **RETURN**

since you want to merge HELP1 with HELPER.

The prompt will read:

STEP 3

Load position > A1

Before you type anything else, be very careful. CalcStar is asking at what position in the old file do you want the merging file to be positioned.

[CAUTION. THE FILE BEING MERGED WILL OVERRIDE THE FILE ON THE SCREEN IN TERMS OF COLUMN WIDTH, PRECISION, ETC. ALSO, IF BOTH FILES HAVE ENTRIES IN THE SAME CELLS, THE INFORMATION IN THE FILE BEING MERGED WILL OVERRIDE THE INFORMATION IN THE CELL OF THE FILE ON THE SCREEN.]

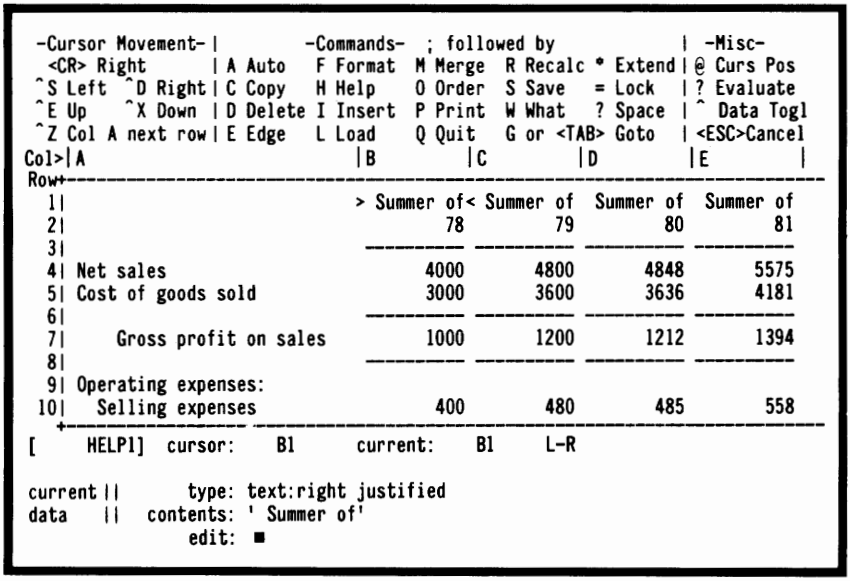
This is why you need to load HELP1 beginning in cell B1. Since HELPER contains information in cell A1, if HELP1 was loaded at A1, the information in HELPER would be overwritten by HELP1.

STEP 4

TYPE **B1**

PRESS **RETURN**

Your merged files should look like the illustration.



13.5 SAVING THE MERGED FILES

Now you can save the merged document. Use the Save Command.

TYPE **;S**

When the prompt reads:

File name :

TYPE **INCOME**

PRESS **RETURN**

13.6 RENAMING MERGED FILES

If you save the merged document under the file name of either of the merged documents, such as HELP1, that file will be deleted. The merged file, with any changes you might have made, will replace the old HELP1 file on the logged disk.

Continue saving the file you just named INCOME, then print the file, and quit CalcStar.

13.7 CHAPTER REVIEW

You have now completed the final application included in this User's Manual. You have been introduced to all of the CalcStar Commands, Text Functions, Cursor Controls, Arithmetic Functions, System Functions, Conditional Functions, and Linear Functions. Use the applications shown in this manual and apply them to your specific needs. If you have any questions about commands or functions, refer to Chapter 14.

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14 COMMANDS/FUNCTIONS

14.1 COMMANDS

;A AUTOMATIC FORM COMMAND

The cursor's course can be preset by first using the ;F FORMAT COMMAND. Once the course has been set, the ;A command can be entered. This will cause the cursor to begin following the outlined course. The cursor will stop at each preset cell. Information can then be re-entered into the cell. This command is very useful when certain entries are subject to frequent changes.

SEE FORMAT COMMAND, ALTERING FORM MODE, FOR MORE INFORMATION.

;C COPY COMMAND

This command allows information to be copied from one cell into another cell, from one cell into a range of cells, and from a range of cells into a range of cells.

TYPE **;C**

The prompt will read:

From coord (>coord):

TYPE the coordinate or range of coordinates that contain the information to be copied.

PRESS **RETURN**

The prompt will read:

To coord (>coord):

TYPE the coordinate or range of coordinates the information is to be copied into.

PRESS **RETURN**

If it is appropriate to the information being copied,

the prompt will read:

R)elative or N)o adjustment?

COPYING INFORMATION WITH NO ADJUSTMENT

If the entries being copied are to stay constant throughout the range of target entries it is being copied into,

TYPE **N**

COPYING INFORMATION THAT IS RELATIVE

If the entries are values or formulas that must be adjusted at each cell to be relevant at that position,

TYPE **R**

EXAMPLE

TYPE **;C**

From coord (>coord): **A6**

To coord (>coord): **B6>D6**

R)elative or N)o adjustment? **R**

The formula at A6 is +SUM(A3>A5)*12

The formula will be copied into B6 as: +SUM(B3>B5)*12

The formula will be copied into C6 as: +SUM(C3>C5)*12

The formula will be copied into D6 as: +SUM(D3>D5)*12

COPYING INFORMATION THAT IS PARTIALLY RELATIVE

If part of the information to be copied is relative, prior to accessing the ;C command, place a ! after each coordinate in the formula that is not to be adjusted for location, then access the ;C command. Follow the instructions in the section, COPYING INFORMATION THAT IS RELATIVE. CalcStar will not adjust information followed by a !.

EXAMPLE

TYPE **;C**

From coord (>coord): **B7**

PRESS **RETURN**

To coord (>coord): **C7>E7**

PRESS **RETURN**

R)elative or N)o adjustment? **R**

The formula at B7 is +SUM(B2>B6)/SQRT(A4!)

The formula will be copied into C7 as: +SUM(C2>C6) /SQRT(A4!)

The formula will be copied into D7 as: +SUM(D2>D6) /SQRT(A4!)

The formula will be copied into E7 as: +SUM(E2>E6) /SQRT(A4!)

;D DELETE COMMAND

This command is used to delete information already entered into the worksheet.

TYPE **;D**

The prompt will read:

Delete: A)ll R)ow C)olumn E)ntry

DELETING ALL

By entering A, all of the information that has been entered into the memory since the last time the SAVE COMMAND was executed, will be deleted. Verification of the deletion must be made.

The prompt will read:

verify Y/N -

If Y is selected, all of the information in the memory will be deleted.

If N is selected, the deletion will not occur and control will return to the edit line.

DELETING A ROW OR COLUMN

With the cursor defining the row or column to be deleted, press either R or C. The program will not allow a row or column to be deleted if it contains information that is used by another cell to complete its function. If a row or column contains such information, the prompt will read:

ERROR: would delete ref(s) at [the coordinates that contain dependent information]

To delete a row or column that contains this information, the entries listed after the ERROR message must be altered in a way which will make them independent of the row or column that is to be deleted.

If the row or column to be deleted contains no information needed by other cells, the prompt will ask:

verify Y/N -

If Y is selected, the row or column will be deleted.

If N is selected, the command is cancelled and control returns to the edit line.

DELETING AN ENTRY

If an E is entered, the entry at the current cursor location will be deleted. The system does not check to see if any other entries are dependent upon this information nor does it ask for verification of the deletion.

;E EDGE COMMAND

By entering ;E, the current cursor location becomes the upper left-hand corner of the display window. The 9 rows below the cursor, and the cursor row will be shown on the screen, in addition to as many columns as will fit. None of the information in any of the cells is altered by this command.

;F FORMAT COMMAND

This command displays the current column width, decimal precision, and form mode, and allows you to change the settings.

TYPE **;F**

The prompt will read:

P)recision (2) or W)idth (10) or F)orm mode (clear)

(Decimal precision is set at 2 places, width is set at 10 spaces, and form mode is clear.)

ALTERING DECIMAL PRECISION

Zero through 12 decimal places can be displayed for each entry.

TYPE **P**

to change decimal precision for the entire column.

If the cursor is in column A,

the prompt will read:

Column A Precision (0..12):

Enter the number of decimal places needed. The precision is adjusted for the entire column. To adjust the decimal precision of a single entry, follow all of the above steps, but enter E in front of the number of decimal spaces.

EXAMPLE

To change the decimal precision of the current cell only,

TYPE **;F**

The prompt will read:

P)recision (2) or W)idth (10) or Form mode (clear)

TYPE **P**

The prompt will read:

Column A Precision (0..12)

TYPE **E4**

PRESS **RETURN**

The decimal precision at the current cursor location is now 4, while the decimal precision of the rest of the column remains at 2.

ALTERING COLUMN WIDTH

Columns are set at 10 spaces. Columns can be adjusted from 3 to 63 spaces.

TYPE **;F**

Select W to alter the current column width.

TYPE **W**

The prompt will read:

Column B Width (3..63)

TYPE **the number of spaces for that column**

PRESS **RETURN**

A column is of uniform width throughout. A single cell in a column can not be a different width than the rest of the column.

ALTERING FORM MODE

The standard form mode moves the cursor from left-to-right, top-to-bottom, cell-to-cell. It does not skip cells. This standard cursor course can be rearranged by changing the form mode and then placing the form mode on automatic. The cursor will then follow the prearranged pattern.

To alter the form mode, place the cursor in what is to be the first cell of the new cursor course.

TYPE **;F**

Select F to set the form mode.

TYPE **F**

Repeat this sequence by typing **;FF** in the selected cells until the cursor pattern is completed. Now execute the ;A command. (See **AUTOMATIC FORM COMMAND.**) The words **FORM CONTROL MODE** will appear at the bottom left of the screen. The cursor will jump to each cell, as specified, allowing new information to be entered.

To return to the **clear form mode**, place the cursor in each cell where the mode was previously changed.

TYPE **;F**

When the prompt reads:

P)recision (2) or W)idth (10) or F)orm Mode (set)

TYPE **F**

The form mode will return to clear.

;G GOTO COMMAND

This command moves the cursor from cell to cell without using the cursor controls. (Same as TAB.)

TYPE **;G**

The prompt will read:

goto > A1

If RETURN is pressed, the cursor will go to cell A1.

If another location is preferred, enter that cell location at the prompt. The cursor will go to the specified location, when RETURN is pressed.

;H HELP COMMAND

The Help command is used to remove the CalcStar window from the display screen and to replace it with the Help Menu. The Help Menu contains information that can be helpful while inputting data into the CalcStar array. Specifically, the menu contains information on CURSOR CONTROLS, DATA ENTRY, EXTENDED COMMANDS, and MATHEMATICAL EQUATIONS. To return to the CalcStar window after accessing the Help command, PRESS RETURN.

;I INSERT COMMAND

This command is used to insert blank rows between existing rows and blank columns between existing columns.

TYPE **;I**

The prompt will read:

Insert: R)ow C)olumn

Insertion will be made at the current cursor location and the column formerly in that position will be moved one column to the right. If a row is inserted, the insertion will be made at the current cursor location and the row formerly in that position will be moved down one row.

ALL FORMULAS AND CELL COORDINATE REFERENCES WILL BE AUTOMATICALLY ADJUSTED.

;L LOAD COMMAND

All files are assigned names by the user. These files are stored on disks. To get the file from the disk onto the CRT, the file must be accessed and loaded into the memory.

TYPE **;L**

The prompt will read:

File name: (make sure file is saved)

Enter the name of a file that was previously saved.

PRESS **RETURN**

The prompt will read:

Load position : A1

If the file is to be displayed at the location A1, PRESS RETURN.

If the upper left corner is to be positioned at another location, enter the coordinates of that location and PRESS RETURN.

;M MERGE COMMAND

This command allows for the merging of two or more files to create one file containing the information contained in all of the files.

TYPE **;M**

The prompt will read:

File name : (make sure file is saved)

Enter the name of the file to be merged with the worksheet file currently on the screen.

The prompt will read:

Load position : A1

SEE CAUTION BEFORE CONTINUING

This is the position where the upper left-hand corner of the new file will be placed in the existing file. If the file is to be merged at a position other than A1, enter the location coordinate. Any number of files can be merged. (As long as your system contains enough memory to hold that amount.)

[CAUTION. THE FILE BEING MERGED WILL OVERRIDE THE FILE ON THE SCREEN IN TERMS OF COLUMN WIDTH, PRECISION, ETC. ALSO, IF BOTH FILES HAVE ENTRIES IN THE SAME CELLS, THE INFORMATION IN THE FILE BEING MERGED WILL OVERRIDE THE INFORMATION IN THE CELL OF THE FILE ON THE SCREEN.]

;O ORDER COMMAND

There are two uses of the ORDER COMMAND. The ORDER COMMAND may be used to change the direction of cursor movement. When the CalcStar program is accessed, L-R is displayed in the current data area. When the ORDER COMMAND is invoked, the L-R is changed to T-B. This means that when the cursor is moved using the RETURN key, it will move from top-to-

bottom instead of left-to-right. To return the cursor movement to left-to-right, invoke the ORDER COMMAND again.

The ORDER COMMAND is also used in conjunction with the RECALCULATE COMMAND (;R). When the RECALCULATE COMMAND is entered, the worksheet is recalculated from left-to-right, top-to-bottom. Sometimes, this order of recalculation will not take into account changes that have an effect on the recalculation of the worksheet.

If the values at the top of each column are dependent upon the entries at the bottom of the columns, you must invoke the ORDER COMMAND before recalculating, for the values to be calculated properly.

;P PRINT COMMAND

By using this command, an entire file can be printed to the printer, an entire file can be printed to a disk, a partial file can be printed to the printer, or a partial file can be printed to a disk.

TYPE **;P**

The prompt will read:

To which file? PRINTER :

PRINTING TO THE PRINTER

If a physical printout on paper is what is wanted,

PRESS RETURN

The prompt will then read:

top left corner : A1

If the printout is to begin with the information contained in cell A1,

PRESS **RETURN**

If the printout is to begin at another location, enter that location's coordinates.

The prompt will then read:

bottom right corner : _____

(The coordinate of the farthest right-hand cell in the lowest row that contains data will be displayed by the program.)

If this is not the position where the report is to end,

TYPE **the proper position**

PRESS **RETURN**

The prompt will now read:

Form length : CONTINUOUS

By PRESSING the **RETURN** key following this prompt, 66 lines will be printed per page. If this is not to be the case, enter the number of lines per page that is required.

If the number of lines is to be other than 66,

The prompt will read:

Stop on each page (y,n)?

By entering y, the printer will stop at the end of each page and only resume printing when the **SPACE BAR** is pressed. This is useful when inserting individual sheets of paper such as letterhead.

By entering n, the file will be printed without pausing.

The prompt will then read:

Printer width : 132

If the printer is using 14" paper,

PRESS **RETURN**

If the printer uses 8½" paper,

TYPE **80**

PRESS **RETURN**

the prompt will read:

Report printing...
Make sure printer and paper are ready.

At this point, the PRINT COMMAND can still be terminated, if desired.

To terminate the PRINT COMMAND,

PRESS **ESC**

The operation will return to the edit line.

If the operation is continued, and A1 was not chosen as the top left corner,

The prompt will read:

Fix ordinates (y,n)?

If y is entered, the column and row headings will be printed, if they are contained in Row 1 and Column A, even if they are not contained in the section of the array that is to be printed.

If n is entered, the array will print exactly as it is shown in the window.

The prompt will read:

Title >

TYPE **the Title of the report to be printed.**

PRESS **RETURN**

The prompt will read:

Title >

You may enter as many titles and subtitles as you wish. The report will begin printing when you PRESS **RETURN** without entering a title.

PRINTING TO THE PRINTER. A PARTIAL FILE

Printing a partial file is similar to printing an entire file. The only difference is different top left and bottom right corners may be specified.

The prompt will read:

top left corner: A1

You may enter another coordinate where the report is to begin printing.

The prompt will read:

Bottom right corner : _____

The space will contain the coordinates of the extreme bottom right corner. Enter the coordinates for a partial printout. The rest is the same as printing an entire file.

PRINTING TO A TEXT FILE (Cannot be reloaded by CalcStar)

TYPE **;P**

The prompt will read:

To which file? PRINTER :

Enter the name of a disk file that the file in memory is to print to.

TYPE **a filename**

PRESS **RETURN**

The resulting disk file will contain the information displayed on the screen, when the file was a CalcStar worksheet. Formulas will not be saved in the text file format. The file will be assigned a .TXT filename extension automatically if no other extension is assigned by the user, and may be edited in WordStar.

PRINTING TO A DATA FILE (Cannot be reloaded by CalcStar)

TYPE **;P**

When the prompt reads:

To which file? PRINTER :

TYPE >**filename**

PRESS **RETURN**

The file will be saved in data file format with a .DTA extension. Each row in the CalcStar worksheet becomes a record; each cell becomes a field or 'data variable.'

;Q QUIT COMMAND

When this command is accessed, the CalcStar program is exited and the operating system is entered.

TYPE **;Q**

The prompt will read:

verify Y/N –

Verification of this command is a precaution because if the CalcStar program is exited and there is a file in the memory that has not been saved, that file will be deleted. (See SAVE COMMAND).

If Y is entered, the user is returned to the operating system.

If N is entered, the user is returned to the CalcStar edit line.

;R RECALCULATE COMMAND

This command initiates the recalculation of all of the entries in the CalcStar array or a single entry.

TYPE **;R**

The prompt will read:

Recalculate: A)ll E)ntry

RECALCULATING ALL

After an entry has been made which may change the outcome of other entries in the array, access the RECALCULATE COMMAND. The entries will be recalculated based on the information added to the worksheet. If there are values that are not affected by this change, they will not be altered. Before using the RECALCULATE COMMAND see the ORDER COMMAND. The ORDER COMMAND may be necessary to reevaluate the information accurately.

RECALCULATING AN ENTRY

This option can be used to recalculate a single entry when it is the only one affected by a change. The recalculation will take place at the current cursor location.

;S SAVE COMMAND

This command allows information in the memory to be taken from the memory and stored on a disk. It is a good idea to stop writing and save the information at regular intervals to protect the work from unforeseen disasters, such as temporary power failures.

TYPE **;S**

The prompt will read:

File name:

Choose a name for the file. It can contain no more than 8 characters, with no extension. A .CSD extension is automatically assigned.

TYPE **the File Name**

PRESS **RETURN**

The prompt will read:

Password (<CR>=none):

A secret password that will protect the file from unauthorized access or accidental deletion may be entered. If you do not want to use a password,

PRESS **RETURN**

If you want a password:

TYPE **the password**

The password will not be seen on the screen.

PRESS **RETURN**

The prompt will read:

Again:

Re-enter the password

to confirm that it is correct. To access a file that is protected by a password, the password must be entered correctly.

The prompt will read:

P)artial or A)ll

SAVING AN ENTIRE FILE

TYPE **A**

to save the entire file.

SAVING A PARTIAL FILE

TYPE **P**

to save a partial file.

The prompt will read:

top left corner : A1

If the top left corner of the partial file is to be at a different location than A1, enter the coordinates of that location and PRESS RETURN.

The prompt will read:

bottom right corner : _____

This is the last coordinate of the file. If the file is to end at another coordinate position, enter it and PRESS RETURN.

CalcStar will now save the partial file as requested.

SAVING A FILE UNDER AN EXISTING FILE NAME

TYPE **;S**

When the prompt reads:

File name :

TYPE **an existing file name**

PRESS **RETURN**

The prompt will read:

File exists. Destroy old contents (y,n)?

If n is entered, the system will abort the SAVE COMMAND and control will return to the edit line.

If y is entered, and there is not a password protecting the file, the contents of the file will be deleted to make room for the new information.

Continue either by SAVING AN ENTIRE FILE or SAVING A PARTIAL FILE.

SAVING UNDER AN EXISTING NAME THAT IS PASSWORD-PROTECTED

Proceed as for SAVING A FILE UNDER AN EXISTING FILE NAME until the prompt reads

Verify password to remove :

If the password is correctly identified, the information in the file will be deleted to make room for the new information. Follow the above steps for completion of the procedure. If the password is entered incorrectly, control will return to the edit line.

;W WHAT COMMAND

The CalcStar window has room to show only 10 rows, and a specific number of columns, depending upon the column widths. When working in rows 11 through 255, the headings in ROW 1 are not displayed on the screen. This makes it very difficult to determine what the values on the screen represent. By using the WHAT COMMAND the row and column and headings will be displayed for the current cursor location.

TYPE **;W**

The edit line will read:

row, column = _____, _____
(The blanks are filled in with the headings.)

If either the row or column does not have a heading at particular coordinate, a _____ will appear.

FOR THIS COMMAND TO WORK, THE HEADINGS MUST APPEAR IN ROW 1 AND COLUMN A. OTHERWISE A BLANK LINE WILL BE INDICATED.

;= LOCK OR EXTENDED WHAT COMMAND

LOCKING IN COLUMN AND ROW HEADINGS

This command is similar to the WHAT COMMAND, but instead of displaying the row and column headings for the current cursor location only, it locks either ROW 1, COLUMN A, or both on the screen so the headings are always displayed, until they are unlocked.

Place the cursor at cell A1.

TYPE ;=

The prompt will read:

Lock: R)ow C)ol B)oth

Depending upon which is chosen, the row, column, or both will be displayed until the ;= command is entered again.

LOCKING IN TWO OR MORE ROWS AND COLUMNS

Several rows and columns may be locked onto the screen at one time. This is done by placing the cursor at the innermost edge of the area to be locked. For example, if the first two columns and the first three rows are to be locked, place the cursor at cell B3 before executing the ;= command.

TYPE ;=

The prompt will read:

Lock: R)ow C)ol B)oth

Choose what is to be locked.

To double check the rows and columns that were locked, check the CalcStar window for the presence of asterisks next to the row and column labels that were to be locked.

To unlock the rows, columns or both, RE-TYPE the LOCK COMMAND.

;? SPACE COMMAND

This command checks the available space left in memory for your worksheet. When entering a lengthy report, it is a good idea to check how much memory space is available.

TYPE **;?**

The prompt will read:

Room for _____ entries.

The blank will be filled in with the approximate number of entries that can still be made before running out of memory. If the memory is running low, use the SAVE COMMAND to move the information from memory to disk.

'MEMORY GETTING LOW' MESSAGE

The system will display this message when the memory space is running low. It will display on the right side of the screen. If this message appears, no more entries should be made without saving.

;* EXTENDED SCREEN COMMAND

The command extends the screen from 10 rows to 15 rows by removing the top portion of the screen that contains the directory of commands, cursor movements, and functions.

TYPE ;*

The screen will be extended to include the 5 rows below what was previously on the screen.

To bring back the directory,

TYPE ;*

TAB GOTO COMMAND

Using the TAB key is the same as using the GOTO COMMAND. It moves the cursor to a given cell without using the cursor control keys.

TYPE **TAB**

The prompt will read:

goto > A1

PRESS **RETURN**

to go to cell A1.

To go to a different cell, enter the coordinates of that cell and PRESS RETURN.

14.2 TEXT FUNCTIONS

/C CENTER JUSTIFICATION

This function centers text entries in a cell. All text is automatically left justified. To center an entry, position the cursor in the cell where the entry is to be made. Before you enter the information,

TYPE **/C and the information**

PRESS **RETURN**

The entry will be centered.

Text that has already been entered into the array can also be centered. Move the cursor to the cell that contains the text to be centered.

TYPE **/C**

PRESS **RETURN**

The text in the cell will be centered.

[NUMERIC ENTRIES CAN NOT BE CENTERED. IF YOU TYPE /C IN FRONT OF A NUMERIC ENTRY, IT BECOMES A TEXT ENTRY. NUMERICS ARE ALWAYS RIGHT JUSTIFIED.]

/L LEFT JUSTIFICATION

This function allows you to left justify text in a cell if it has been right or center justified.

TYPE **/L and the information**

PRESS **RETURN**

The entry is left justified.

[NUMERIC ENTRIES CANNOT BE LEFT JUSTIFIED. IF YOU TYPE /L IN FRONT OF A NUMERIC ENTRY, IT BECOMES A TEXT ENTRY. NUMERICS ARE ALWAYS RIGHT JUSTIFIED.]

To change a numeric entry to a text entry after a numeric value has been entered, you must delete the cell entry and re-enter the value as text.

/R RIGHT JUSTIFICATION

This function is used to right justify information in a cell. All numerics are automatically right justified, but text is not. To right justify text,

TYPE **/R and the information**

PRESS **RETURN**

To right justify information already entered into a cell, position the cursor in that cell.

TYPE **/R**

PRESS **RETURN**

The information will be right justified.

[NUMERIC ENTRIES ARE AUTOMATICALLY RIGHT JUSTIFIED. IF YOU TYPE /R IN FRONT OF A NUMERIC ENTRY, IT BECOMES A TEXT ENTRY.]

To change a numeric entry to a text entry after a numeric value has been entered, you must delete the cell entry and re-enter the value as text.

/P PAGE BREAK

This function is used in conjunction with the PRINT COMMAND. By inserting /P in the first column of a row in the worksheet, the printer will stop printing and skip to the next sheet of paper and continue printing. It will continue printing on that page until another /P is is encountered or until the number of lines specified by the PRINT COMMAND have been printed on the page.

A ROW THAT CONTAINS /P SHOULD CONTAIN NO OTHER INFORMATION.

See PRINT COMMAND for further information on printing.

/= REPEAT FUNCTION

This function allows you to repeat a character or characters throughout a cell. To do this, place the cursor in the cell where the character is to be.

TYPE /=_____

(Place the character/characters to be repeated on the line following the equal sign.)

PRESS **RETURN**

The character/characters have filled the entire width of the cell.

! VALUE HOLDER

This function allows you to recompute an input value before it is stored in the table. For example, suppose you wanted to enter the data for a previous period, adjusted for inflation. That is, you want to enter the data for last year with the addition of a 10% adjustment for inflation. To do this you would enter !110%! in the position of the cursor. The indeterminate value ?n? will

appear in that cell, and it will remain there until a number has been entered. The value holder formula, in this case !110! will continue to modify future entries until deleted.

Use of the RECALCULATE COMMAND will not affect this entry. This function applies only when the data is initially entered.

\ COMMENT FUNCTION

Use of this function allows you to insert a comment in a cell with numeric data. The comment does not affect what is in the cell and appears only on the edit and contents lines, not in the window nor on the printout.

To use this function, place the cursor in the cell where the comment is pertinent.

> TYPE **appropriate numeric entry \ and the comment**

This function is useful at the SUM line of a long row or column of numbers. On the contents line the sum of the row would be displayed along with a comment such as \1982 TAXES.

DO NOT CONFUSE THE \ WITH THE /. SOME KEYBOARDS DO NOT CONTAIN THE \, SO THE COMMENT FUNCTION IS NOT AVAILABLE.

^ TEXT NUMERIC DATA TOGGLE

CalcStar distinguishes between two types of entries, TEXT and NUMERIC. TEXT entries should be used for headings, labels, and captions. They are ignored during operations that involve arithmetic commands and functions. NUMERIC entries are right justified and are taken into account during the RECALULATIONS and MATHEMATICAL FUNCTIONS.

To determine which category an entry fits into, there is a set of guidelines the CalcStar program follows. An entry which begins with the characters 0-9, +, −, ., !, or (are determined to be NUMERIC entries. An entry which begins with any other character is assumed to be a TEXT entry.

At times, it may be necessary to label a TEXT entry with one of the characters CalcStar reads as a NUMERIC entry and vice versa. To have a NUMERIC entry read as a TEXT entry or a TEXT entry read as a NUMERIC entry enter the information and then press ^.

@ FUNCTION

This function allows you to move the cursor around the screen. When you have located the entry you would like to use, execute the @ Function to enter the cell coordinate at the cursor location into the current location. If you would like to copy the value from cell A1 into cell D3, move the cursor to cell D3.

TYPE +

Move the cursor to cell A1,

TYPE @

PRESS **RETURN**

The information in A1 will be copied into D3 and the cursor will return to D3.

14.3 CURSOR CONTROLS

THE CTRL KEY

When CTRL appears in front of a character, you are to hold down the CTRL key while you type the other appropriate key.

CTRL D CURSOR CONTROL

CTRL D will move the cursor one column to the right from its present location unless the cursor is in column DW, then it will not move.

CTRL E CURSOR CONTROL

CTRL E will move the cursor straight up one row from its present position, unless it is in row 1, then it will not move.

CTRL H or BACKSPACE CURSOR CONTROL

CTRL H, and also the BACKSPACE or DELETE key, will delete the character on the edit line and other input lines.

CTRL S CURSOR CONTROL

CTRL S moves the cursor one column to the left of its present location, except when the cursor is in Column A, then there is no movement.

CTRL X CURSOR CONTROL

CTRL X will move the cursor straight down one row from its present location, except when it is in row 255, then it will not move.

CTRL Z CURSOR CONTROL

Depending upon the position of the direction indicator, CTRL Z will move the cursor to the first column of the next row if the direction is left-to-right, or it will move the cursor to the first row of the next column if the direction indicator is top-to-bottom.

RETURN KEY CURSOR CONTROL

The RETURN key will move the cursor one column to the right if the edit line is blank unless the direction indicator is top-to-bottom. If you have typed an entry on the edit line, RETURN will enter the data into the current cursor location and the cursor will remain at that location. PRESS RETURN again and the cursor will move one column to the right. If the cursor is in column DW, PRESSING RETURN will cause the cursor to move to the first column of the next line. If the direction indicator is top-to-bottom, the cursor moves downward rather than right.

14.4 MATHEMATICAL FUNCTIONS

There are four types of mathematical functions recognized by the CalcStar program. These are: ARITHMETIC FUNCTIONS, SYSTEM FUNCTIONS, LINEAR FUNC-

TIONS, and CONDITIONAL FUNCTIONS. Use these functions to define formulas within the CalcStar array. These functions are also used in conjunction with the EVALUATE FUNCTIONS.

ARITHMETIC FUNCTIONS

There are five ARITHMETIC FUNCTIONS used by CalcStar. They are + (addition), – (subtraction), * (multiplication), / (division), and % (percentage). Use these symbols to perform simple arithmetic functions within the CalcStar array. For instance, you may add entries: +E4+G2. The system will add the entries and place the answer to the equation in the current cursor location. You may even do more complex equations with these symbols: (H6–A2)/(R4+R5)*100. Equations are read from left-to-right with the calculations in parentheses done first. Multiplication and division are done before addition and subtraction.

+ ADDITION

The plus sign (+) is used to add numbers to numbers. The numbers may be actual values or the cell coordinate in which the value is contained.

The + may be used to add two or more items together.

EXAMPLES

ADDING NUMBERS TO NUMBERS:

349.2+561.75+3

ADDING NUMBERS TO VALUES IN CELLS

+A4+12

CalcStar will add the value contained in cell A4 to 12.

ADDING VALUES IN CELLS TO VALUES IN CELLS

+A4+B4+C12

The values contained in each cell will be added together.

– SUBTRACTION

The minus sign (–) is used to subtract numbers. The numbers may be actual values or the cell coordinate in which the value is contained. The – may be used to subtract two or more items.

EXAMPLES

SUBTRACTING NUMBERS FROM NUMBERS

500.2–112.39–50

SUBTRACTING NUMBERS FROM VALUES IN CELLS/VALUES IN CELLS FROM NUMBERS

512–G3

CalcStar will subtract the value contained in cell G3 from 512.

SUBTRACTING VALUES IN CELLS FROM VALUES IN CELLS

–A4–G3–H2

The values contained in each cell will be subtracted in the order the equation specifies.

* MULTIPLICATION

The asterisk (*) is used to multiply numbers. The numbers may be actual values or the cell coordinate in which the value is contained. The * may be used to multiply two or more items.

EXAMPLES

MULTIPLYING NUMBERS

3*2.5*400

MULTIPLYING NUMBERS AND VALUES IN CELLS

4*A5

CalcStar will multiply the value of cell A5 by 4.

MULTIPLYING VALUES IN CELLS

+B5*C2*E2

The values contained in each cell will be multiplied together.

/ DIVISION

The slash (/) is used to divide numbers. The numbers may be actual values or the cell coordinate in which the value is contained. The / may be used to divide two or more items.

EXAMPLES

DIVIDING NUMBERS

30/12

DIVIDING NUMBERS AND VALUES CONTAINED IN CELLS

14/A4

CalcStar will divide 14 by the value contained in cell A4.

DIVIDING VALUES CONTAINED IN CELLS

+G4/A4/B4

The value contained in G4 will be divided by the value at A4 and that value will be divided by the value at B4.

% PERCENTAGE

CalcStar has the capacity to determine the percentages of numbers. The numbers may be actual values or the cell coordinate in which the value is contained.

EXAMPLES

TAKING THE PERCENTAGE OF A NUMBER

100%12

TAKING THE PERCENTAGE OF A VALUE CONTAINED IN A CELL

12%(A4)

TAKING THE PERCENTAGE OF A NUMBER AND A VALUE CONTAINED IN A CELL

+A4%(A5/45)

SYSTEM FUNCTIONS

There are 10 SYSTEM FUNCTIONS that CalcStar recognizes. They are: MAX(list or range), MIN(list or range), SUM(list or range), CNT(list or range), AVG(list or range), SQRT(value), LOG(value), LN(value), ABS (value), and EXP(value).

When entering a SYSTEM FUNCTION as the first value in a cell entry remember to place a + or a − in front of the function. If a + or a − is not placed in front of the function, or if ^, the text/numeric data toggle, is not entered behind the function, the entry will be read as a text entry instead of a numeric entry.

MAX(list or range) MAXIMUM VALUE IN SET OF VALUES

This function is used to determine the maximum value in a range of entries.

EXAMPLE

+MAX(A4>A10)

[Values contained in cells A4>A10 are: 3, 5, 7, 12, 15, 0, 2; respectively.]

The answer is 15, which is contained in cell A8.

MIN(list or range) MINIMUM VALUE IN A SET OF VALUES

This function is used to determine the minimum value in a list or range of entries.

EXAMPLE

+MIN(A4>A10)

[Values contained in cell A4>A10 are: 3, 5, 7, 12, 15, 0, 2; respectively]

The answer is 0, which is contained in cell A9.

SUM(list or range) SUM RANGE OF ENTRIES

This function is used to sum a range of entries.

EXAMPLE

+SUM(A4>A10)

[Values contained in cells A4>A10 are: 3, 5, 7, 12, 15, 0, 2; respectively]

The answer is 44.

CNT(list or range) COUNT ITEMS IN LIST

This function counts the number of numeric cells in a list.

EXAMPLE

+CNT(A4>A10)

[Values contained in cells A4>A10 are: 3, 5, 7, 12, 15, 0, 2; respectively]

The answer is 7.

AVG(list or range) MEAN AVERAGE VALUE OF ENTRIES

This function will find the mean value of a range of entries. It divides the SUM(list) by the CNT(list).

EXAMPLE

+AVG(A4>A10)

[Values contained in cells A4>A10 are: 3, 5, 7, 12, 15, 0, 2; respectively]

The answer is 6.28

SQRT(value) SQUARE ROOT

This function will determine the square root of an entry or a range of entries.

EXAMPLE

+SQRT(A4+3)

CalcStar will add the value contained in A4 to 3 and then take the square root of the total.

LOG(value) LOGARITHM BASE 10

This function will determine the Base 10 Logarithm for a given value. A Base 10 Logarithm, more commonly known as a common logarithm is defined as:

If $x=10^y$

then $y=\log_{10}x$

or **y=+LOG(x)**

EXAMPLE

+LOG(10)=1

+LOG(125)=2.09

LN(value) NATURAL LOGARITHM

Use this function to determine the natural logarithm of a value. A natural logarithm is similar to a common logarithm, but instead of having a base of 10, a natural logarithm has the irrational number 2.71828 ... as the base. The symbol for this irrational number is e.

If $x=e^y$

then $y=\log_e x$

or **y=+LN(x)**

also **x=+EXP(y)**

EXAMPLE

+LN(1)=0

+LN(63)=4.14

ABS(value) ABSOLUTE VALUE

This function determines the absolute value of an entry. The absolute value of a non-zero number is the corresponding positive number: thus the absolute value of 3 is 3, and the absolute value of −3 is 3. The absolute value of zero is zero.

EXAMPLE

+ABS(432−678)=246

EXP(value) EXPONENTIAL VALUE

This function determines the exponential value of the entry by taking the value of e, 2.7182818, to the power you enter.

If $x=e^y$

then **x=+EXP(y)**

also **y=+LN(x)**

EXAMPLE

+EXP(2)=7.38

+EXP(10)=22026.46

NOTE: The double asterisk, **, is used to identify exponents, or to raise a value to a power. When using this function, please note that the answers determined by CalcStar can be off up to .1, depending upon the decimal precision of the values used.

LINEAR FUNCTIONS

CalcStar recognizes 4 Linear Functions. They are: REGR(range, first coord. of other range), PROJ(value), DEPD(value), and SLOPE( ).

REGR(range, 1st coord of other range) REGRESSION FUNCTION

Computes a linear regression line and returns the average of the second range (dependent value). This line must be computed prior to the use of any of the other linear functions.

PROJ(value) PROJECTION FUNCTION

Inserts a value for the independent variable into the regression equation and returns the predicted value (the dependent variable).

DEPD(value) DEPENDENT FUNCTION

Inserts a value for the dependent variable into the regression equation and solves for and returns the best estimate for the independent variable.

SLOPE( ) SLOPE OF LINEAR FUNCTION

Returns the slope of the regression equation which tells us that the dependent variable is increasing (+) or decreasing (−) as a function of the independent variable.

CONDITIONAL FUNCTIONS

CalcStar can perform conditional functions. Conditional functions are equations that give you a chance to specify certain conditions that must be met in order for the function to be carried out.

For example, you can tell CalcStar to enter information in a given cell only if a certain condition is met. Assume you are doing your company's payroll. Part of the payroll includes determining the deductions for each employee. Since there is a standard percentage for FICA you have already programmed that into your payroll determination file, but there is a yearly limit on the amount of FICA that can be deducted per employee. Using a conditional function, you can tell CalcStar to deduct the standard amount until the total amount withdrawn reaches the specified limit. After the limit has been reached CalcStar will no longer deduct FICA from the employee's wages.

There are two types of conditional statements that CalcStar recognizes. These are the **IF, THEN STATEMENT** and the **IF, THEN, ELSE STATEMENT.**

Both of these functions recognize the same set of comparisons. They are:

>	GREATER THAN
=	EQUAL TO
<>	NOT EQUAL TO
<=	LESS THAN OR EQUAL TO
>=	GREATER THAN OR EQUAL TO
*	AND
+	OR

An **IF, THEN STATEMENT** will take the following format:

+_____<_____:_____

What this equation is saying is: If the first value is less than the second value, then enter the third value in the current cursor location.

An **IF, THEN, ELSE STATEMENT** takes this format:

+____>=____:____:____

What this equation is saying: If the first value is greater than or equal to the second value, then enter the third value into the current cursor location, but if it is not, then enter the fourth value into the current cursor location.

EXAMPLE

+A46>0:A45/A46:1

Which means:

If the value in cell A46 is greater than zero, then divide the value in cell A45 by A46 and enter the value in the current cursor location. But, if the value in A46 is not greater than zero, enter 1 in the current cursor location.

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APPENDIX A: ERROR MESSAGES

The following is a list of Error Messages that may be displayed at any time while using the CalcStar program.

SECTION 1 ENTRY ERRORS

Bad coord - coordinate entered cannot be used for intended purpose, or coordinate was entered incorrectly.

bad form length - specified form length is not within required range (1..66).

bad range coord - range of coordinates cannot be used for intended purpose.

can't create - not enough memory left to create another cell.

can't open - not enough space available on disk, or file is 'read only.'

can't open file - not enough room to open file on disk.

couldn't read TERMCAP.SYS - system could not read a necessary file. Re-install CalcStar using INSTCS.file.

DATA IS PROBABLY DAMAGED - from entering too long of report and there was not enough memory.

data too wide - specified printing section is too wide for specified printing width.

delete character is underscore ('_') - certain machines will have the underscore key as their delete key.

ERROR-> <expression>? - system could not interpret entry correctly.

ERROR: would delete ref(s) at <coord> - specified deletion would eliminate data on which other formulas are dependent, so formulas must first be changed.

FATAL ERROR: not on disk - disk is missing an important CalcStar file and cannot operate until it is on the disk.

FILEWRITE ERROR - system had trouble writing file to the disk.

math op error numeric overflow - space is not large enough for intended operation (calculation).

math op error divide by zero - expression would lead to a value being divided by 0, which is undefined.

MEMORY IS TOO LOW - Not enough room to make the intended insertion.

!n! - column is not wide enough to display result.

No form flags - no automatic form modes have been set.

Not along row/column - specified copy is not in a straight vertical or straight horizontal line.

not ok - password is not correct.

OUT OF MEMORY - no memory left; something must be deleted.

Prec. must be 0..12 - precision entry is not within required range.

READ ERRORS - there are bad blocks where the file is stored.

Sizes don't agree - number of coordinates you are copying from and number of coordinates you are copying to are different.

Width must be 3..63 - column width entry is not within required range.

WRITE ERROR - disk gets full while writing a file.

Write error: Password not the same - second password is not the same as the first password.

write error <file> not found - file does not exist as entered.

write error I/O - disk needs more file space or directory space.

write error Close - disk needs more file space or directory space.

End > start - in saving a partial file, the top left coordinate must come before the bottom right coordinate.

write error bad coord - invalid coordinate entered.

WRITE CLOSE ERROR - diskette is wrong or insufficient room.

SECTION II EVALUATION ERRORS

0 value range error:
math overflow
divide by zero
function cannot evaluate value entered

1 illegal coordinate or wrong coordinate format

2 range is not a row or column

3 missing a '(' or ')'

4 unknown function, function typed incorrectly

6 terminal expression is illegal

7 illegal characters at the end of the line

8 number is not in correct form

12 too many parenthetical levels

255 illegal value in REGR function

APPENDIX B: CSDUMP

INTRODUCTION

With CalcStar we have included a separate, but very helpful secondary program called 'CSDUMP.' This support program allows you to print out a listing of the contents of the CalcStar array. That means you may have a printed copy of all the formulas and specifications that are behind the scenes to create your worksheet (which only includes calculated results.) CSDUMP prints out each coordinate that has a data entry and informs you of the column width, type of entry, including justification if the entry is text, and the contents of the entry.

The importance of CSDUMP is the ability to print out the contents of the worksheet in order to be able to store it in a safe place. That way you still have a copy of your hard work, in case your disk is ruined, lost, or erased.

Let's take a minute to demonstrate the use of CSDUMP so you will know how to obtain permanent copies of your report contents.

PRINTING CSDUMP

To begin, you must exit the CalcStar program, using the Quit Command. When you exit, make sure you have saved the file you were working on. For our example, we will use a file that you have entered onto the disk. Let's dump the file CHEKBOOK.

STEP 1

At the operating system prompt:

TYPE **CSDUMP**

PRESS **RETURN**

STEP 2

The prompt will read:

CalcStar file name (<Return> to quit:

STEP 3

TYPE **CHEKBOOK.CSD**

The prompt will read:

Comments?

If you would like to include a one line title on the printout, enter it now.

If you do not want a title,

PRESS **RETURN**

STEP 4

The prompt will read:

Output file (<Return> for printer):

PRESS **RETURN**

The file will begin printing immediately.

WRITING TO ANOTHER FILE

You can also write CSDUMP files to other files. If, instead of printing to the printer, you want a copy of the CSDUMP that is readable by WordStar, and therefore able to be edited by WordStar, instead of pressing the return key,

When the prompt reads:

Output file (<Return> for printer):

TYPE **CHEKBOOK**

The CSDUMP of CHEKBOOK.CSD will be read to a file, CHEKBOOK.DMP, that can be read by WordStar.

When either the printer is done printing the file, or the file has been written to another file,

The prompt will read:

CalcStar file name (<Return> to quit):

You can enter the file name of another CalcStar file to be dumped or you can press return.

PRESS **RETURN**

CSDUMPs of all of the applications contained in this manual follow.

CalcStar File — Chapters 5, 6, & 7 — CHEKBOOK.DMP

```
Position C1 Width 20 Type:  Text (Centered)       :ISSUE/DEPOSIT
Position D1 Width  8 Type:  Text (Right justified):CHECK
Position E1 Width  8 Type:  Text (Right justified):DEPOSIT
Position A2 Width  8 Type:  Text (Centered)       :CHECK #
Position B2 Width  8 Type:  Text (Centered)       :DATE
Position C2 Width 20 Type:  Text (Centered)       :DESCRIPTION
Position D2 Width  8 Type:  Text (Right justified):AMOUNT
Position E2 Width  8 Type:  Text (Right justified):AMOUNT
Position F2 Width  8 Type:  Text (Right justified):BALANCE
Position A3 Width  8 Type:  Text (Repeating)      :-
Position B3 Width  8 Type:  Text (Repeating)      :-
Position C3 Width 20 Type:  Text (Repeating)      :-
Position D3 Width  8 Type:  Text (Repeating)      :-
Position E3 Width  8 Type:  Text (Repeating)      :-
Position F3 Width  8 Type:  Text (Repeating)      :-
Position F4 Width  8 Type:  Numeric :1250.00 BEGINNING BALANCE =  1250.000000000000
Position A5 Width  8 Type:  Text (Centered)       :101
Position B5 Width  8 Type:  Text (Left justified) :JUL 20
Position C5 Width 20 Type:  Text (Left justified) :GROCERIES-TO-GO
Position D5 Width  8 Type:  Numeric :110 =  110.000000000000
Position F5 Width  8 Type:  Numeric :(+F4+E5-D5) =  1140.000000000000
Position A6 Width  8 Type:  Text (Centered)       :102
Position B6 Width  8 Type:  Text (Left justified) :JUL 21
Position C6 Width 20 Type:  Text (Left justified) :BETTY'S CLOTHING
Position D6 Width  8 Type:  Numeric :533.10 =  533.100000000000
Position F6 Width  8 Type:  Numeric :(+F5+E6-D6) =  606.900000000000
```

```
Position A7 Width  8 Type:  Text (Centered)       :103
Position B7 Width  8 Type:  Text (Left justified) :JUL 21
Position C7 Width 20 Type:  Text (Left justified) :GAS COMPANY
Position D7 Width  8 Type:  Numeric :20.00 =  20.000000000000
Position F7 Width  8 Type:  Numeric :(+F6+E7-D7) =  586.900000000000
Position A8 Width  8 Type:  Text (Centered)       :104
Position B8 Width  8 Type:  Text (Left justified) :JUL 21
Position C8 Width 20 Type:  Text (Left justified) :ELECTRIC COMPANY
Position D8 Width  8 Type:  Numeric :50.00 =  50.000000000000
Position F8 Width  8 Type:  Numeric :(+F7+E8-D8) =  536.900000000000
Position B9 Width  8 Type:  Text (Left justified) :JUL 30
Position C9 Width 20 Type:  Text (Left justified) :PAYCHECK
Position E9 Width  8 Type:  Numeric :1570 =  1570.000000000000
Position F9 Width  8 Type:  Numeric :(+F8+E9-D9) =  2106.900000000000
Position A10 Width  8 Type:  Text (Centered)       :105
Position B10 Width  8 Type:  Text (Left justified) :AUG 1
Position C10 Width 20 Type:  Text (Left justified) :DR. BONES/XRAY
Position D10 Width  8 Type:  Numeric :65 =  65.000000000000
Position F10 Width  8 Type:  Numeric :(+F9+E10-D10) =  2041.900000000000
Position A11 Width  8 Type:  Text (Centered)       :106
Position B11 Width  8 Type:  Text (Left justified) :AUG 1
Position C11 Width 20 Type:  Text (Left justified) :GARY L. BARTON/RENT
Position D11 Width  8 Type:  Numeric :470 =  470.000000000000
Position F11 Width  8 Type:  Numeric :(+F10+E11-D11) =  1571.900000000000
Position A12 Width  8 Type:  Text (Centered)       :107
Position B12 Width  8 Type:  Text (Left justified) :AUG 4
Position C12 Width 20 Type:  Text (Left justified) :SEASIDE AMUSEMENT
Position D12 Width  8 Type:  Numeric :75. =  75.000000000000
Position F12 Width  8 Type:  Numeric :(+F11+E12-D12) =  1496.900000000000
Position A13 Width  8 Type:  Text (Centered)       :108
Position B13 Width  8 Type:  Text (Left justified) :AUG 10
Position C13 Width 20 Type:  Text (Left justified) :INSTANT-DEBT CHARGE
Position D13 Width  8 Type:  Numeric :175 =  175.000000000000
Position F13 Width  8 Type:  Numeric :(+F12+E13-D13) =  1321.900000000000
Position B14 Width  8 Type:  Text (Left justified) :AUG 15
Position C14 Width 20 Type:  Text (Left justified) :PAYCHECK
Position E14 Width  8 Type:  Numeric :1570 =  1570.000000000000
Position F14 Width  8 Type:  Numeric :(+F13+E14-D14) =  2891.900000000000
```

CalcStar File — Chapters 8, 9, & 10 — JOBCOST.DMP

```
Position A1 Width 21 Type:  Text (Right justified):CUSTOMER
Position B1 Width 10 Type:  Text (Right justified):AOK DUCK
Position C1 Width 10 Type:  Text (Left justified) :WADDLE CO.
Position B2 Width 10 Type:  Text (Centered)       :EST.
Position C2 Width 10 Type:  Text (Centered)       :HOURLY
Position D2 Width 10 Type:  Text (Centered)       :OVERHEAD
Position E2 Width 10 Type:  Text (Centered)       :DIRECT
Position A3 Width 21 Type:  Text (Left justified) :DIRECT LABOR - -
Position B3 Width 10 Type:  Text (Centered)       :MANHOURS
Position C3 Width 10 Type:  Text (Centered)       :RATE
Position D3 Width 10 Type:  Text (Centered)       :PERCENTAGE
Position E3 Width 10 Type:  Text (Centered)       :LABOR
Position A4 Width 21 Type:  Text (Repeating)      :-
Position B4 Width 10 Type:  Text (Repeating)      :-
Position C4 Width 10 Type:  Text (Repeating)      :-
Position D4 Width 10 Type:  Text (Repeating)      :-
Position E4 Width 10 Type:  Text (Repeating)      :-
Position A5 Width 21 Type:  Text (Left justified) :Customer Coordination
Position B5 Width 10 Type:  Numeric :16 =  16.000000000000
```

```
Position C5 Width 10 Type:  Numeric :39 =  39.000000000000
Position D5 Width 10 Type:  Numeric :175 =  175.000000000000
Position E5 Width 10 Type:  Numeric :+D5%(C5*B5)+(C5*B5) =  1716.000000000000
Position A6 Width 21 Type:  Text (Left justified) :Prep. Work
Position B6 Width 10 Type:  Numeric :24 =  24.000000000000
Position C6 Width 10 Type:  Numeric :5 =  5.000000000000
Position D6 Width 10 Type:  Numeric :175 =  175.000000000000
Position E6 Width 10 Type:  Numeric :+D6%(C6*B6)+(C6*B6) =  330.000000000000
Position A7 Width 21 Type:  Text (Left justified) :Clean Floors
Position B7 Width 10 Type:  Numeric :40 =  40.000000000000
Position C7 Width 10 Type:  Numeric :15 =  15.000000000000
Position D7 Width 10 Type:  Numeric :175 =  175.000000000000
Position E7 Width 10 Type:  Numeric :+D7%(C7*B7)+(C7*B7) =  1650.000000000000
Position A8 Width 21 Type:  Text (Left justified) :Vacuum Rugs
Position B8 Width 10 Type:  Numeric :36 =  36.000000000000
Position C8 Width 10 Type:  Numeric :21 =  21.000000000000
Position D8 Width 10 Type:  Numeric :175 =  175.000000000000
Position E8 Width 10 Type:  Numeric :+D8%(C8*B8)+(C8*B8) =  2079.000000000000
Position A9 Width 21 Type:  Text (Left justified) :Wash Windows
Position B9 Width 10 Type:  Numeric :0 S.C. LABOR =  0.000000000000
Position C9 Width 10 Type:  Numeric :0 =  0.000000000000
Position D9 Width 10 Type:  Numeric :175 =  175.000000000000
Position E9 Width 10 Type:  Numeric :+D9%(C9*B9)+(C9*B9) =  0.000000000000
Position A10 Width 21 Type:  Text (Left justified) :Dust Furniture
Position B10 Width 10 Type:  Numeric :36 =  36.000000000000
Position C10 Width 10 Type:  Numeric :8 =  8.000000000000
Position D10 Width 10 Type:  Numeric :175 =  175.000000000000
Position E10 Width 10 Type:  Numeric :+D10%(C10*B10)+(C10*B10) =  792.000000000000
Position A11 Width 21 Type:  Text (Left justified) :Wash Walls
Position B11 Width 10 Type:  Numeric :54 =  54.000000000000
Position C11 Width 10 Type:  Numeric :12 =  12.000000000000
Position D11 Width 10 Type:  Numeric :175 =  175.000000000000
Position E11 Width 10 Type:  Numeric :+D11%(C11*B11)+(C11*B11) =  1782.000000000000
Position A12 Width 21 Type:  Text (Left justified) :Clean Restrooms
Position B12 Width 10 Type:  Numeric :24 =  24.000000000000
Position C12 Width 10 Type:  Numeric :10 =  10.000000000000
Position D12 Width 10 Type:  Numeric :175 =  175.000000000000
Position E12 Width 10 Type:  Numeric :+D12%(C12*B12)+(C12*B12) =  660.000000000000
Position D14 Width 10 Type:  Text (Centered)       :MATERIAL
Position E14 Width 10 Type:  Text (Centered)       :TOTAL
Position A15 Width 21 Type:  Text (Left justified) :MATERIALS & SUPPLIES
Position C15 Width 10 Type:  Text (Centered)       :COST
Position D15 Width 10 Type:  Text (Centered)       :HANDLING
Position E15 Width 10 Type:  Text (Centered)       :MATERIAL
Position A16 Width 21 Type:  Text (Repeating)      :-
Position B16 Width 10 Type:  Text (Repeating)      :-
Position C16 Width 10 Type:  Text (Repeating)      :-
Position D16 Width 10 Type:  Text (Repeating)      :-
Position E16 Width 10 Type:  Text (Repeating)      :-
Position A17 Width 21 Type:  Text (Left justified) :Disinfectant
Position B17 Width 10 Type:  Numeric :+C17>=0:'' = "        "
Position C17 Width 10 Type:  Numeric :150 =  150.000000000000
Position D17 Width 10 Type:  Numeric :10 =  10.000000000000
Position E17 Width 10 Type:  Numeric :+D17%(C17)+C17 =  165.000000000000
Position A18 Width 21 Type:  Text (Left justified) :Cleanser
Position B18 Width 10 Type:  Numeric :+C18>=0:'' = "        "
Position C18 Width 10 Type:  Numeric :120 =  120.000000000000
Position D18 Width 10 Type:  Numeric :10 =  10.000000000000
Position E18 Width 10 Type:  Numeric :+D18%(C18)+C18 =  132.000000000000
Position A19 Width 21 Type:  Text (Left justified) :Window Cleaner
Position B19 Width 10 Type:  Numeric :+C19>=0:'' = "        "
Position C19 Width 10 Type:  Numeric :0 S.C. LABOR =  0.000000000000
Position D19 Width 10 Type:  Numeric :10 =  10.000000000000
```

```
Position E19 Width 10 Type:  Numeric :+D19%(C19)+C19 =  0.000000000000
Position A20 Width 21 Type:  Text (Left justified) :Paper Towels
Position B20 Width 10 Type:  Numeric :+C20>=0:'' = "        "
Position C20 Width 10 Type:  Numeric :320 =  320.000000000000
Position D20 Width 10 Type:  Numeric :10 =  10.000000000000
Position E20 Width 10 Type:  Numeric :+D20%(C20)+C20 =  352.000000000000
Position A21 Width 21 Type:  Text (Left justified) :Rags
Position B21 Width 10 Type:  Numeric :+C21>=0:'' = "        "
Position C21 Width 10 Type:  Numeric :210 =  210.000000000000
Position D21 Width 10 Type:  Numeric :10 =  10.000000000000
Position E21 Width 10 Type:  Numeric :+D21%(C21)+C21 =  231.000000000000
Position A22 Width 21 Type:  Text (Left justified) :Vacuum Cleaner Bags
Position B22 Width 10 Type:  Numeric :+C22>=0:'' = "        "
Position C22 Width 10 Type:  Numeric :98 =  98.000000000000
Position D22 Width 10 Type:  Numeric :10 =  10.000000000000
Position E22 Width 10 Type:  Numeric :+D22%(C22)+C22 =  107.800000000000
Position B24 Width 10 Type:  Text (Centered)       :EST.
Position C24 Width 10 Type:  Text (Centered)       :HOURLY
Position D24 Width 10 Type:  Text (Centered)       :OVERHEAD
Position E24 Width 10 Type:  Text (Centered)       :DIRECT
Position A25 Width 21 Type:  Text (Left justified) :SUBCONTRACT LABOR
Position B25 Width 10 Type:  Text (Centered)       :MANHOURS
Position C25 Width 10 Type:  Text (Centered)       :RATE
Position D25 Width 10 Type:  Text (Centered)       :PERCENTAGE
Position E25 Width 10 Type:  Text (Centered)       :LABOR
Position A26 Width 21 Type:  Text (Repeating)      :-
Position B26 Width 10 Type:  Text (Repeating)      :-
Position C26 Width 10 Type:  Text (Repeating)      :-
Position D26 Width 10 Type:  Text (Repeating)      :-
Position E26 Width 10 Type:  Text (Repeating)      :-
Position A27 Width 21 Type:  Text (Left justified) :Tom's Window Washers
Position B27 Width 10 Type:  Numeric :64 =  64.000000000000
Position C27 Width 10 Type:  Numeric :25 =  25.000000000000
Position D27 Width 10 Type:  Numeric :50 =  50.000000000000
Position E27 Width 10 Type:  Numeric :+D27%(C27*B27)+(C27*B27) =  2400.000000000000
Position D31 Width 10 Type:  Text (Centered)       :T & E
Position E31 Width 10 Type:  Text (Centered)       :TOTAL
Position A32 Width 21 Type:  Text (Left justified) :TRAVEL/ENTERTAINMENT
Position C32 Width 10 Type:  Text (Centered)       :EXPENSE
Position D32 Width 10 Type:  Text (Centered)       :HANDLING
Position E32 Width 10 Type:  Text (Centered)       :EXPENSE
Position A33 Width 21 Type:  Text (Repeating)      :-
Position B33 Width 10 Type:  Text (Repeating)      :-
Position C33 Width 10 Type:  Text (Repeating)      :-
Position D33 Width 10 Type:  Text (Repeating)      :-
Position E33 Width 10 Type:  Text (Repeating)      :-
Position A34 Width 21 Type:  Text (Left justified) :Auto
Position B34 Width 10 Type:  Numeric :+C34>=0:'' = "        "
Position C34 Width 10 Type:  Numeric :350 =  350.000000000000
Position D34 Width 10 Type:  Numeric :10 =  10.000000000000
Position E34 Width 10 Type:  Numeric :+D34%(C34)+C34 =  385.000000000000
Position A35 Width 21 Type:  Text (Left justified) :Air
Position B35 Width 10 Type:  Numeric :+C35>=0:'' = "        "
Position C35 Width 10 Type:  Numeric :0 =  0.000000000000
Position D35 Width 10 Type:  Numeric :10 =  10.000000000000
Position E35 Width 10 Type:  Numeric :+D35%(C35)+C35 =  0.000000000000
Position A36 Width 21 Type:  Text (Left justified) :Lodging
Position B36 Width 10 Type:  Numeric :+C36>=0:'' = "        "
Position C36 Width 10 Type:  Numeric :0 =  0.000000000000
Position D36 Width 10 Type:  Numeric :10 =  10.000000000000
Position E36 Width 10 Type:  Numeric :+D36%(C36)+C36 =  0.000000000000
Position A37 Width 21 Type:  Text (Left justified) :Food
Position B37 Width 10 Type:  Numeric :+C37>=0:'' = "        "
```

```
Position C37 Width 10 Type:  Numeric :500 =  500.000000000000
Position D37 Width 10 Type:  Numeric :10 =  10.000000000000
Position E37 Width 10 Type:  Numeric :+D37%(C37)+C37 =  550.000000000000
Position A38 Width 21 Type:  Text (Left justified) :Misc.
Position B38 Width 10 Type:  Numeric :+C38>=0:'' = "        "
Position C38 Width 10 Type:  Numeric :0 =  0.000000000000
Position D38 Width 10 Type:  Numeric :10 =  10.000000000000
Position E38 Width 10 Type:  Numeric :+D38%(C38)+C38 =  0.000000000000
Position D40 Width 10 Type:  Text (Centered)       :PERCENTAGE
Position E40 Width 10 Type:  Text (Centered)       :TOTAL
Position A41 Width 21 Type:  Text (Left justified) :MISCELLANEOUS
Position C41 Width 10 Type:  Text (Centered)       :COST
Position D41 Width 10 Type:  Text (Centered)       :OVERHEAD
Position E41 Width 10 Type:  Text (Centered)       :MISC.
Position A42 Width 21 Type:  Text (Repeating)      :-
Position B42 Width 10 Type:  Text (Repeating)      :-
Position C42 Width 10 Type:  Text (Repeating)      :-
Position D42 Width 10 Type:  Text (Repeating)      :-
Position E42 Width 10 Type:  Text (Repeating)      :-
Position A47 Width 21 Type:  Text (Left justified) :PROJECT TOTALS
Position B47 Width 10 Type:  Text (Centered)       :$
Position C47 Width 10 Type:  Text (Centered)       :% OF TOTAL
Position A48 Width 21 Type:  Text (Repeating)      :=
Position B48 Width 10 Type:  Text (Repeating)      :=
Position C48 Width 10 Type:  Text (Repeating)      :=
Position A49 Width 21 Type:  Text (Left justified) :DIRECT LABOR
Position B49 Width 10 Type:  Numeric :+SUM(E5>E12) =  9009.000000000000
Position C49 Width 10 Type:  Numeric :(B49/B55!)*100 =  67.575271156183
Position A50 Width 21 Type:  Text (Left justified) :MATERIAL
Position B50 Width 10 Type:  Numeric :+SUM(E17>E22) =  987.800000000000
Position C50 Width 10 Type:  Numeric :(B50/B55!)*100 =  7.409352075489
Position A51 Width 21 Type:  Text (Left justified) :S.C. LABOR
Position B51 Width 10 Type:  Numeric :+SUM(E27) =  2400.000000000000
Position C51 Width 10 Type:  Numeric :(B51/B55!)*100 =  18.002070238077
Position A52 Width 21 Type:  Text (Left justified) :T & E
Position B52 Width 10 Type:  Numeric :+SUM(E34>E38) =  935.000000000000
Position C52 Width 10 Type:  Numeric :(B52/B55!)*100 =  7.013306530251
Position A53 Width 21 Type:  Text (Left justified) :MISC.
Position B53 Width 10 Type:  Numeric :+SUM(E42) =  0.000000000000
Position C53 Width 10 Type:  Numeric :(B53/B55!)*100 =  0.000000000000
Position A54 Width 21 Type:  Text (Repeating)      :-
Position B54 Width 10 Type:  Text (Repeating)      :-
Position C54 Width 10 Type:  Text (Repeating)      :-
Position A55 Width 21 Type:  Text (Left justified) :TOTAL PROJECT COST
Position B55 Width 10 Type:  Numeric :+SUM(B49>B53) =  13331.800000000000
Position B56 Width 10 Type:  Text (Repeating)      :=
Position A57 Width 21 Type:  Text (Left justified) :/PAGE
Position A58 Width 21 Type:  Text (Right justified):USING MARKUP TO
Position B58 Width 10 Type:  Text (Left justified) :DETERMINE
Position C58 Width 10 Type:  Text (Right justified):SALE PRICE
Position A59 Width 21 Type:  Text (Repeating)      :-
Position B59 Width 10 Type:  Text (Repeating)      :-
Position C59 Width 10 Type:  Text (Repeating)      :-
Position A60 Width 21 Type:  Text (Left justified) :PROJECT COST
Position C60 Width 10 Type:  Numeric :+B55 =  13331.800000000000
Position A61 Width 21 Type:  Text (Left justified) :% MARKUP
Position C61 Width 10 Type:  Numeric :150 =  150.000000000000
Position A62 Width 21 Type:  Text (Repeating)      :-
Position C62 Width 10 Type:  Text (Repeating)      :-
Position A63 Width 21 Type:  Text (Left justified) :SALE PRICE
Position C63 Width 10 Type:  Numeric :+C61%(C60)+C60 =  33329.500000000000
Position C64 Width 10 Type:  Text (Repeating)      :=
Position A66 Width 21 Type:  Text (Left justified) :DETERMINING PROFIT
```

```
Position A67 Width 21 Type:  Text (Repeating)      :-
Position A68 Width 21 Type:  Text (Left justified) :SALE PRICE
Position C68 Width 10 Type:  Numeric :+C63 =  33329.500000000000
Position A69 Width 21 Type:  Text (Left justified) :PROJECT COST
Position C69 Width 10 Type:  Numeric :+C60 =  13331.800000000000
Position A70 Width 21 Type:  Text (Repeating)      :-
Position C70 Width 10 Type:  Text (Repeating)      :-
Position A71 Width 21 Type:  Text (Left justified) :PROFIT
Position C71 Width 10 Type:  Numeric :+C68-C69 =  19997.700000000000
Position A77 Width 21 Type:  Text (Left justified) :SALES TOTALS
Position B77 Width 10 Type:  Text (Centered)       :$
Position C77 Width 10 Type:  Text (Centered)       :% OF TOTAL
Position A78 Width 21 Type:  Text (Repeating)      :=
Position B78 Width 10 Type:  Text (Repeating)      :=
Position C78 Width 10 Type:  Text (Repeating)      :=
Position A79 Width 21 Type:  Text (Left justified) :DIRECT LABOR
Position B79 Width 10 Type:  Numeric :+SUM(E35>E42) =  9009.000000000000
Position C79 Width 10 Type:  Numeric :(B79/B86!)*100 =  27.030108462473
Position A80 Width 21 Type:  Text (Left justified) :MATERIAL
Position B80 Width 10 Type:  Numeric :+SUM(E47>E52) =  987.800000000000
Position C80 Width 10 Type:  Numeric :(B80/B86!)*100 =  2.963740830196
Position A81 Width 21 Type:  Text (Left justified) :S.C. LABOR
Position B81 Width 10 Type:  Numeric :+SUM(E57) =  2400.000000000000
Position C81 Width 10 Type:  Numeric :(B81/B86!)*100 =  7.200828095231
Position A82 Width 21 Type:  Text (Left justified) :T & E
Position B82 Width 10 Type:  Numeric :+SUM(E64>E68) =  935.000000000000
Position C82 Width 10 Type:  Numeric :(B82/B86!)*100 =  2.805322612100
Position A83 Width 21 Type:  Text (Left justified) :MISC.
Position B83 Width 10 Type:  Numeric :+SUM(E72) =  0.000000000000
Position C83 Width 10 Type:  Numeric :(B83/B86!)*100 =  0.000000000000
Position A84 Width 21 Type:  Text (Left justified) :PROFIT
Position B84 Width 10 Type:  Numeric :+C71 =  19997.700000000000
Position C84 Width 10 Type:  Numeric :(B84/B86!)*100 =  60.000000000000
Position A85 Width 21 Type:  Text (Repeating)      :-
Position B85 Width 10 Type:  Text (Repeating)      :-
Position A86 Width 21 Type:  Text (Left justified) :TOTAL SALES PRICE
Position B86 Width 10 Type:  Numeric :+SUM(B79>B84) =  33329.500000000000
Position B87 Width 10 Type:  Text (Repeating)      :=
Position A88 Width 21 Type:  Text (Left justified) :SALE PRICE
Position B88 Width 10 Type:  Numeric :+C63 =  33329.500000000000
```

CalcStar File — Chapter 11 — 4WDTRUCK.DMP

```
Position A1 Width 25 Type:  Text (Left justified) :Item.....................
Position B1 Width 10 Type:F Text (Left justified) :4WD TRUCK
Position A2 Width 25 Type:  Text (Left justified) :Initial Value ($).....
Position B2 Width 10 Type:F Numeric :14500 =  14500.000000000000
Position A3 Width 25 Type:  Text (Left justified) :Depreciation Rate (%)....
Position B3 Width 10 Type:F Numeric :25 =  25.000000000000
Position A4 Width 25 Type:  Text (Left justified) :Year Acquired.............
Position B4 Width 10 Type:F Numeric :1982 =  1982.000000000000
Position A5 Width 25 Type:  Text (Left justified) :Residual Value ($).....
Position B5 Width 10 Type:F Numeric :1450 =  1450.000000000000
Position A6 Width 25 Type:  Text (Repeating)      :-
Position B6 Width 10 Type:  Text (Repeating)      :-
Position C6 Width 10 Type:  Text (Repeating)      :-
Position D6 Width 10 Type:  Text (Repeating)      :-
Position E6 Width 10 Type:  Text (Repeating)      :-
Position B7 Width 10 Type:  Text (Centered)       :Year
Position C7 Width 10 Type:  Text (Centered)       :Dep. Exp.
Position D7 Width 10 Type:  Text (Centered)       :Acc. Dep.
```

```
Position E7 Width 10 Type:  Text (Centered)       :Book Val.
Position B8 Width 10 Type:  Text (Repeating)      :=
Position C8 Width 10 Type:  Text (Repeating)      :=
Position D8 Width 10 Type:  Text (Repeating)      :=
Position E8 Width 10 Type:  Text (Repeating)      :=
Position E9 Width 10 Type:  Numeric :+B2=0:" ":+B2 =  14500.000000000000
Position B10 Width 10 Type:  Numeric :+B2=0:"no entry":+B4+1 =  1983.000000000000
Position C10 Width 10 Type:  Numeric :+B2=0:" ":+B3%E9 =  3625.000000000000
Position D10 Width 10 Type:  Numeric :+B2=0:" ":+C10 =  3625.000000000000
Position E10 Width 10 Type:  Numeric :+B2=0:" ":+E9-C10 =  10875.000000000000
Position B11 Width 10 Type:  Numeric :+B2=0:"no entry":+B10+1 =  1984.000000000000
Position C11 Width 10 Type:  Numeric :+B2=0:" ":+B3%E10 =  2718.750000000000
Position D11 Width 10 Type:  Numeric :+B2=0:" ":+C11+D10 =  6343.750000000000
Position E11 Width 10 Type:  Numeric :+B2=0:" ":+E10-C11 =  8156.250000000000
Position B12 Width 10 Type:  Numeric :+E11-B5!<=0:" ":+B11+1 =  1985.000000000000
Position C12 Width 10 Type:  Numeric :+E11-B5!<=0:" ":+B3!%E11 =  2039.062500000000
Position D12 Width 10 Type:  Numeric :+E11-B5!<=0:" ":+C12+D11 =  8382.812500000000
Position E12 Width 10 Type:  Numeric :+E11-B5!<=0:" ":+E11-C12 =  6117.187500000000
Position B13 Width 10 Type:  Numeric :+E12-B5!<=0:" ":+B12+1 =  1986.000000000000
Position C13 Width 10 Type:  Numeric :+E12-B5!<=0:" ":+B3!%E12 =  1529.296875000000
Position D13 Width 10 Type:  Numeric :+E12-B5!<=0:" ":+C13+D12 =  9912.109375000000
Position E13 Width 10 Type:  Numeric :+E12-B5!<=0:" ":+E12-C13 =  4587.890625000000
Position B14 Width 10 Type:  Numeric :+E13-B5!<=0:" ":+B13+1 =  1987.000000000000
Position C14 Width 10 Type:  Numeric :+E13-B5!<=0:" ":+B3!%E13 =  1146.972656250000
Position D14 Width 10 Type:  Numeric :+E13-B5!<=0:" ":+C14+D13 =  11059.082031250000
Position E14 Width 10 Type:  Numeric :+E13-B5!<=0:" ":+E13-C14 =  3440.917968750000
Position B15 Width 10 Type:  Numeric :+E14-B5!<=0:" ":+B14+1 =  1988.000000000000
Position C15 Width 10 Type:  Numeric :+E14-B5!<=0:" ":+B3!%E14 =  860.229492187500
Position D15 Width 10 Type:  Numeric :+E14-B5!<=0:" ":+C15+D14 =  11919.311523438000
Position E15 Width 10 Type:  Numeric :+E14-B5!<=0:" ":+E14-C15 =  2580.688476562500
Position B16 Width 10 Type:  Numeric :+E15-B5!<=0:" ":+B15+1 =  1989.000000000000
Position C16 Width 10 Type:  Numeric :+E15-B5!<=0:" ":+B3!%E15 =  645.172119140630
Position D16 Width 10 Type:  Numeric :+E15-B5!<=0:" ":+C16+D15 =  12564.483642579000
Position E16 Width 10 Type:  Numeric :+E15-B5!<=0:" ":+E15-C16 =  1935.516357421900
Position B17 Width 10 Type:  Numeric :+E16-B5!<=0:" ":+B16+1 =  1990.000000000000
Position C17 Width 10 Type:  Numeric :+E16-B5!<=0:" ":+B3!%E16 =  483.879089355480
Position D17 Width 10 Type:  Numeric :+E16-B5!<=0:" ":+C17+D16 =  13048.362731934000
Position E17 Width 10 Type:  Numeric :+E16-B5!<=0:" ":+E16-C17 =  1451.637268066400
Position B18 Width 10 Type:  Numeric :+E17-B5!<=0:" ":+B17+1 =  1991.000000000000
Position C18 Width 10 Type:  Numeric :+E17-B5!<=0:" ":+B3!%E17 =  362.909317016600
Position D18 Width 10 Type:  Numeric :+E17-B5!<=0:" ":+C18+D17 =  13411.272048951000
Position E18 Width 10 Type:  Numeric :+E17-B5!<=0:" ":+E17-C18 =  1088.727951049800
Position B19 Width 10 Type:  Numeric :+E18-B5!<=0:" ":+B18+1 = "         "
Position C19 Width 10 Type:  Numeric :+E18-B5!<=0:" ":+B3!%E18 = "         "
Position D19 Width 10 Type:  Numeric :+E18-B5!<=0:" ":+C19+D18 = "         "
Position E19 Width 10 Type:  Numeric :+E18-B5!<=0:" ":+E18-C19 = "         "
```

CalcStar File — Chapter 12 — FORECAST

```
Position B1 Width 10 Type:  Text (Right justified):JAN
Position C1 Width 10 Type:  Text (Right justified):FEB
Position D1 Width 10 Type:  Text (Right justified):MAR
Position E1 Width 10 Type:  Text (Right justified):APRIL
Position F1 Width 10 Type:  Text (Right justified):MAY
Position G1 Width 10 Type:  Text (Right justified):JUN
Position B2 Width 10 Type:  Numeric :1 =  1.000000000000
Position C2 Width 10 Type:  Numeric :2 =  2.000000000000
Position D2 Width 10 Type:  Numeric :3 =  3.000000000000
Position E2 Width 10 Type:  Numeric :4 =  4.000000000000
Position F2 Width 10 Type:  Numeric :5 =  5.000000000000
```

```
Position G2 Width 10 Type:  Numeric :6 =  6.000000000000
Position B3 Width 10 Type:  Text (Repeating)      :=
Position C3 Width 10 Type:  Text (Repeating)      :=
Position D3 Width 10 Type:  Text (Repeating)      :=
Position E3 Width 10 Type:  Text (Repeating)      :=
Position F3 Width 10 Type:  Text (Repeating)      :=
Position G3 Width 10 Type:  Text (Repeating)      :=
Position A4 Width 15 Type:  Text (Left justified) :district A
Position A5 Width 15 Type:  Text (Right justified):product 1
Position B5 Width 10 Type:  Numeric :300 =  300.000000000000
Position C5 Width 10 Type:  Numeric :435 =  435.000000000000
Position D5 Width 10 Type:  Numeric :650 =  650.000000000000
Position E5 Width 10 Type:  Numeric :875 =  875.000000000000
Position F5 Width 10 Type:  Numeric :1200 =  1200.000000000000
Position G5 Width 10 Type:  Numeric :1440 =  1440.000000000000
Position H5 Width 10 Type:  Numeric :+regr(B2>G2,B5) =  816.666666666670
Position I5 Width 10 Type:  Numeric :+proj(10) =  2343.238095238100
Position J5 Width 10 Type:  Numeric :+slope() =  234.857142857140
Position A6 Width 15 Type:  Text (Right justified):product 2
Position B6 Width 10 Type:  Numeric :100 =  100.000000000000
Position C6 Width 10 Type:  Numeric :92 =  92.000000000000
Position D6 Width 10 Type:  Numeric :81 =  81.000000000000
Position E6 Width 10 Type:  Numeric :64 =  64.000000000000
Position F6 Width 10 Type:  Numeric :55 =  55.000000000000
Position G6 Width 10 Type:  Numeric :47 =  47.000000000000
Position H6 Width 10 Type:  Numeric :+regr(B2>G2,B6) =  73.166666666667
Position I6 Width 10 Type:  Numeric :+proj(10) =  0.180952380960
Position J6 Width 10 Type:  Numeric :+slope() = -11.228571428571
Position A8 Width 15 Type:  Text (Left justified) :advertising $$
Position B8 Width 10 Type:  Numeric :1230 =  1230.000000000000
Position C8 Width 10 Type:  Numeric :1300 =  1300.000000000000
Position D8 Width 10 Type:  Numeric :1435 =  1435.000000000000
Position E8 Width 10 Type:  Numeric :1450 =  1450.000000000000
Position F8 Width 10 Type:  Numeric :1510 =  1510.000000000000
Position G8 Width 10 Type:  Numeric :1530 =  1530.000000000000
Position H8 Width 10 Type:  Numeric :+regr(B8>G8,B5) =  816.666666666670
Position I8 Width 10 Type:  Numeric :+proj(1750.88) =  1999.980961977000
Position J8 Width 10 Type:  Numeric :+slope() =  3.462885933561
```

CalcStar File — Chapter 13 — INCOME.DMP

```
Position B1 Width 10 Type:  Text (Right justified):Summer of
Position C1 Width 10 Type:  Text (Right justified):Summer of
Position D1 Width 10 Type:  Text (Right justified):Summer of
Position E1 Width 10 Type:  Text (Right justified):Summer of
Position F1 Width 10 Type:  Text (Right justified):Summer of
Position G1 Width 10 Type:  Text (Right justified):Summer of
Position B2 Width 10 Type:  Numeric :78 =  78.000000000000
Position C2 Width 10 Type:  Numeric :1+B2 =  79.000000000000
Position D2 Width 10 Type:  Numeric :1+C2 =  80.000000000000
Position E2 Width 10 Type:  Numeric :1+D2 =  81.000000000000
Position F2 Width 10 Type:  Numeric :1+E2 =  82.000000000000
Position G2 Width 10 Type:  Numeric :1+F2 =  83.000000000000
Position B3 Width 10 Type:  Text (Repeating)      :-
Position C3 Width 10 Type:  Text (Repeating)      :-
Position D3 Width 10 Type:  Text (Repeating)      :-
Position E3 Width 10 Type:  Text (Repeating)      :-
Position F3 Width 10 Type:  Text (Repeating)      :-
Position G3 Width 10 Type:  Text (Repeating)      :-
Position A4 Width 28 Type:  Text (Left justified) :Net sales
Position B4 Width 10 Type:  Numeric :4000 =  4000.000000000000
```

```
Position C4 Width 10 Type:  Numeric :4800 =  4800.000000000000
Position D4 Width 10 Type:  Numeric :4848 =  4848.000000000000
Position E4 Width 10 Type:  Numeric :5575 =  5575.000000000000
Position F4 Width 10 Type:  Numeric :6523 =  6523.000000000000
Position G4 Width 10 Type:  Numeric :7762 =  7762.000000000000
Position A5 Width 28 Type:  Text (Left justified) :Cost of goods sold
Position B5 Width 10 Type:  Numeric :3000 =  3000.000000000000
Position C5 Width 10 Type:  Numeric :3600 =  3600.000000000000
Position D5 Width 10 Type:  Numeric :3636 =  3636.000000000000
Position E5 Width 10 Type:  Numeric :4181 =  4181.000000000000
Position F5 Width 10 Type:  Numeric :4892 =  4892.000000000000
Position G5 Width 10 Type:  Numeric :5821 =  5821.000000000000
Position B6 Width 10 Type:  Text (Repeating)      :-
Position C6 Width 10 Type:  Text (Repeating)      :-
Position D6 Width 10 Type:  Text (Repeating)      :-
Position E6 Width 10 Type:  Text (Repeating)      :-
Position F6 Width 10 Type:  Text (Repeating)      :-
Position G6 Width 10 Type:  Text (Repeating)      :-
Position A7 Width 28 Type:  Text (Left justified) :    Gross profit on sales
Position B7 Width 10 Type:  Numeric :+B4-B5 =  1000.000000000000
Position C7 Width 10 Type:  Numeric :+C4-C5 =  1200.000000000000
Position D7 Width 10 Type:  Numeric :+D4-D5 =  1212.000000000000
Position E7 Width 10 Type:  Numeric :+E4-E5 =  1394.000000000000
Position F7 Width 10 Type:  Numeric :+F4-F5 =  1631.000000000000
Position G7 Width 10 Type:  Numeric :+G4-G5 =  1941.000000000000
Position B8 Width 10 Type:  Text (Repeating)      :-
Position C8 Width 10 Type:  Text (Repeating)      :-
Position D8 Width 10 Type:  Text (Repeating)      :-
Position E8 Width 10 Type:  Text (Repeating)      :-
Position F8 Width 10 Type:  Text (Repeating)      :-
Position G8 Width 10 Type:  Text (Repeating)      :-
Position A9 Width 28 Type:  Text (Left justified) :Operating expenses:
Position A10 Width 28 Type:  Text (Left justified) :  Selling expenses
Position B10 Width 10 Type:  Numeric :400 =  400.000000000000
Position C10 Width 10 Type:  Numeric :480 =  480.000000000000
Position D10 Width 10 Type:  Numeric :485 =  485.000000000000
Position E10 Width 10 Type:  Numeric :558 =  558.000000000000
Position F10 Width 10 Type:  Numeric :653 =  653.000000000000
Position G10 Width 10 Type:  Numeric :777 =  777.000000000000
Position A11 Width 28 Type:  Text (Left justified) :  Advertising
Position B11 Width 10 Type:  Numeric :300 =  300.000000000000
Position C11 Width 10 Type:  Numeric :360 =  360.000000000000
Position D11 Width 10 Type:  Numeric :364 =  364.000000000000
Position E11 Width 10 Type:  Numeric :419 =  419.000000000000
Position F11 Width 10 Type:  Numeric :490 =  490.000000000000
Position G11 Width 10 Type:  Numeric :583 =  583.000000000000
Position B12 Width 10 Type:  Text (Repeating)      :-
Position C12 Width 10 Type:  Text (Repeating)      :-
Position D12 Width 10 Type:  Text (Repeating)      :-
Position E12 Width 10 Type:  Text (Repeating)      :-
Position F12 Width 10 Type:  Text (Repeating)      :-
Position G12 Width 10 Type:  Text (Repeating)      :-
Position A13 Width 28 Type:  Text (Left justified) :    Total operating expenses
Position B13 Width 10 Type:  Numeric :+B10+B11 =  700.000000000000
Position C13 Width 10 Type:  Numeric :+C10+C11 =  840.000000000000
Position D13 Width 10 Type:  Numeric :+D10+D11 =  849.000000000000
Position E13 Width 10 Type:  Numeric :+E10+E11 =  977.000000000000
Position F13 Width 10 Type:  Numeric :+F10+F11 =  1143.000000000000
Position G13 Width 10 Type:  Numeric :+G10+G11 =  1360.000000000000
Position B14 Width 10 Type:  Text (Repeating)      :-
Position C14 Width 10 Type:  Text (Repeating)      :-
Position D14 Width 10 Type:  Text (Repeating)      :-
Position E14 Width 10 Type:  Text (Repeating)      :-
```

```
Position F14 Width 10 Type:  Text (Repeating)      :-
Position G14 Width 10 Type:  Text (Repeating)      :-
Position A15 Width 28 Type:  Text (Left justified) :Income before income tax
Position B15 Width 10 Type:  Numeric :+B7-B13 =  300.000000000000
Position C15 Width 10 Type:  Numeric :+C7-C13 =  360.000000000000
Position D15 Width 10 Type:  Numeric :+D7-D13 =  363.000000000000
Position E15 Width 10 Type:  Numeric :+E7-E13 =  417.000000000000
Position F15 Width 10 Type:  Numeric :+F7-F13 =  488.000000000000
Position G15 Width 10 Type:  Numeric :+G7-G13 =  581.000000000000
Position A16 Width 28 Type:  Text (Left justified) :Income tax
Position B16 Width 10 Type:  Numeric :15%B15 =  45.000000000000
Position C16 Width 10 Type:  Numeric :15%C15 =  54.000000000000
Position D16 Width 10 Type:  Numeric :15%D15 =  54.450000000000
Position E16 Width 10 Type:  Numeric :15%E15 =  62.550000000000
Position F16 Width 10 Type:  Numeric :15%F15 =  73.200000000000
Position G16 Width 10 Type:  Numeric :15%G15 =  87.150000000000
Position B17 Width 10 Type:  Text (Repeating)      :-
Position C17 Width 10 Type:  Text (Repeating)      :-
Position D17 Width 10 Type:  Text (Repeating)      :-
Position E17 Width 10 Type:  Text (Repeating)      :-
Position F17 Width 10 Type:  Text (Repeating)      :-
Position G17 Width 10 Type:  Text (Repeating)      :-
Position A18 Width 28 Type:  Text (Left justified) :NET INCOME
Position B18 Width 10 Type:  Numeric :+B15-B16 =  255.000000000000
Position C18 Width 10 Type:  Numeric :+C15-C16 =  306.000000000000
Position D18 Width 10 Type:  Numeric :+D15-D16 =  308.550000000000
Position E18 Width 10 Type:  Numeric :+E15-E16 =  354.450000000000
Position F18 Width 10 Type:  Numeric :+F15-F16 =  414.800000000000
Position G18 Width 10 Type:  Numeric :+G15-G16 =  493.850000000000
Position B19 Width 10 Type:  Text (Repeating)      :=
Position C19 Width 10 Type:  Text (Repeating)      :=
Position D19 Width 10 Type:  Text (Repeating)      :=
Position E19 Width 10 Type:  Text (Repeating)      :=
Position F19 Width 10 Type:  Text (Repeating)      :=
Position G19 Width 10 Type:  Text (Repeating)      :=
Position A20 Width 28 Type:  Text (Left justified) :Projection of Sales in '85....
Position B20 Width 10 Type:  Numeric :+regr(B2>G2,B4):"..... =  0.000000000000
Position C20 Width 10 Type:  Numeric :+proj(85) =  0.000000000000
Position A21 Width 28 Type:  Text (Left justified) :Projection of Sales w/
Position A22 Width 28 Type:  Text (Left justified) :   Advertising at 1000.....
Position B22 Width 10 Type:  Numeric :+regr(B11>G11,B4):"..... =  0.000000000000 (error)
Position C22 Width 10 Type:  Numeric :+proj(1000) =  0.000000000000
Position A23 Width 28 Type:  Text (Left justified) :Advertising Expense Needed
Position A24 Width 28 Type:  Text (Left justified) :   to Reach Sales of $15,000....
Position B24 Width 10 Type:  Text (Repeating)      :.
Position C24 Width 10 Type:  Numeric :+depd(15000) =  0.000000000000 (error)
```

COMMAND AND FUNCTION INDEX

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GENERAL INDEX