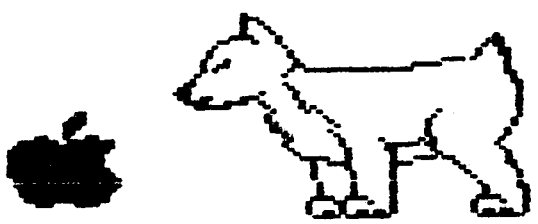
Pg 3



D.A.U.G. Newsletter

DuPage Apple Users Group

DECEMBER 1984

D E C E M B E R M E E T I N G

When: 7:30 pm, December 11

Where: Faith United Methodist Church
59th & Fairview, Downers Grove

Topic: Competition & Winter Solstice Party
Election to fill vacancy as president

Other Dates to Remember

Jan 8: Regular meeting: All About DOM
16: Assembly Language Class (7 pm, Downers Grove Library)
23: DAUG Board Meeting (7 pm, Darien Library)

Feb 5: Applesoft SIG (Call 968-3897 for details)
12: Regular meeting: Boards for your Apple
20: Assembly Language Class (7 pm, Downers Grove Library)
27: DAUG Board Meeting (7 pm, Darien Library)

Mar 5: Applesoft SIG (Call 968-3897 for details)
12: Regular meeting: Anything to Auction?
20: Assembly Language Class (7 pm, Downers Grove Library)
27: DAUG Board Meeting (7 pm, Darien Library)

Apr 2: Applesoft SIG (Call 968-3897 for details)
9: Regular meeting: What is an Operating System?
17: Assembly Language Class (7 pm, Downers Grove Library)

FUTURE MEETINGS

DECEMBER: Our traditional Winter Solstice Fest. Volunteers are needed to bring refreshments and especially as contestants in the DAUG Bowl (I just made that up!) programming contest. See the November newsletter for details. For those of you interested in taking part, the best person to contact before or at the beginning of the meeting is Ed Danley (969-4433), but any of the other officers will also assist.

JANUARY: About the DAUG Disks of the Month (DOMs). Your steering committee has the impression that many members, especially relatively new ones, are not

GOTO page 3

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A DATABASE PROGRAM FOR A CHECKBOOK

After the October meeting on databases, it seemed appropriate to mention how I have been using a data base at home. Often trying to get started using a data base program is like starting to use a computer. You are sure that there must be something useful you can do with it, but most of the examples seem like more work than they are worth. I would like to share with you how I use a data base program for a checkbook.

What were the goals I had for this program? I wanted to be able to separate checks by category for income tax purposes. For example I wanted to be able to list all of my charitable contribution checks and sum the amounts. That way, at the end of the year I could get all my data for income taxes very quickly. I wanted to be able to

GOTO page 2

Treasurers Report for	November
PREVIOUS BALANCE	1453.36
REVENUE	
Membership	256.00
Monthly DOM's	180.50
TOTAL REVENUE	436.00
EXPENSES	
Refreshments	2.00
Operational expenses	6.16
Newsletter+stamps	217.60
Diskettes	332.79
TOTAL EXPENSES	658.55
NET INCOME	-222.55
ENDING BALANCE	1230.81

Ed Danley

Treasurers Report, year ending 12/1/84	
PREVIOUS BALANCE	1348.35
REVENUE	
Membership	2594.00
Monthly DOM's	2253.50
TOTAL REVENUE	4847.50
EXPENSES	
Refreshments	266.80
Operational expenses	496.56
Capital expenses	519.68
Newsletter+stamps	1243.45
Diskettes	1364.74
IAC Membership	90.00
Rent	620.00
Prize fund	195.00
Miscellaneous	168.81
TOTAL EXPENSES	4965.04
NET INCOME	-117.54
ENDING BALANCE	1230.04

Ed Danley

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CHECKBOOK from page 1

retrieve checks by payee, date, amount, or any similar criterion. I did not want to balance my checkbook with the computer -- that seemed like much more work than it was worth. After all, all that requires is a piece of paper and a pencil. I rarely even bother with a calculator. If I could get sophisticated reports and plots out, that would be a plus, but it wasn't really what I needed.

The data base program did not have to be highly sophisticated. It needed to be able to sum a group of items, search on a substring, and print reports. Almost any data base will do that. If the entire data base were in memory at once it would be convenient and getting the data I wanted would be faster. This is possible because I don't write a lot of checks in a year.

My data file has the following six fields. The first field is the entry number. The first entry in the file is 1, the second 2, and so forth. By creating this element in the file, I could insert an item into the checkbook file, when I read down the register and skipped a check number. I would just put the errant check at the end with the number of where it should be, and then sort the file. Other data base programs may allow other techniques, like a direct insert. The Data Reporter doesn't. The next fields are the check number, date and amount. For the amount, I allow both positive and negative numbers. Medical bills and insurance payments make good use of this feature. I pay the bills and the amount is positive. When (and if) I get insurance reimbursement, I enter that as minus. Thus the sum of the column is the tax deductable amount for medical bills (fortunately I've never had enough to deduct that item). The next field is the category. I have assigned codes to different items, insurance, charitable, etc. For instance, checks for cash is category 91, business deductions are 21-29, and housing expenses are 71-79. Purely arbitrary. So when I want to retrieve business data for tax purposes, I just ask for values between 21 and 29 in the "category" field. The final item in my file is the payee. That should be obvious.

The advantages of this system were obvious this fall. Margo, my wife, belongs to American Women in Science (AWIS). She got a letter from them, saying that her dues were overdue. She distinctly remembered sending them a check. So we searched the file, and sure enough, found a check to AWIS. However, it was only a contribution and not a dues check. If we had gone through the checks manually, we wouldn't have found the dues check. But since she would have been sure she had sent a check, we would have to go through the

check registers several times to be sure that we hadn't missed it. After all it is much more difficult to be sure that an item is not in a list than to find it if it is.

Last year, getting the deductions from the checkbook was the easiest it has ever been. In 20 minutes (mainly printing) everything was done. In the past, both Margo and I would go over the checkbook to make sure no check snuck away. And then there would be the 3 different answers when we added them all up.

Using a data base for handling checks is easy and very effective. It won't balance your checkbook, nor will it give you a breakdown in budget format although with the program, such a breakdown is easy to create. There are no accounting peculiarities (or advantages, depending on your orientation). This task is well-suited for simple data bases like Quickfile or Data Reporter. Try it. Then you can really say you do your finances with your computer.

Charles D. Jonah

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SOFTWARE REVIEW
DOM SPECIAL #10

ELF ABS's by Mike Culver, ELFWARE

This is an early learning program (2-4 years) that is very reasonable in price and is fashioned along the lines of the Sticky Bear series. The program displays a full color HIRES picture of something that starts with a letter pressed by the child. Both the start letter and the spelling (e.g. pig) are also shown on the display. If the child presses a number that number of figures is displayed. The graphics are excellent. On the flip side is a demo of ELF COLORING BOOK soon to be available.

You may purchase a disk from the DAUG library for $3.50. Obtain a receipt for the purchase price. If you like it the authors would like you to send them an additional $11.50 along with your receipt. This is an excellent way to obtain quality software but will work only if the honor system is followed. To maintain DAUG's flow from these sources, please compensate the author if you like his work.

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FUTURE from page 1

sufficiently aware of the large number of useful public domain programs available to members on the collection of DOMs in our Disk Library. The purpose of the January meeting will be to describe and illustrate use of DOMs and the programs they contain.

FEBRUARY: Plug-in Cards for Apple IIs. Various cards or boards that can be inserted into the Apple's I/O slots will be discussed and demonstrated. Included will be the SpeeDemon Accelerator card (Ron Hanus), the ABT Softkey (Wayne Perk), and a card that adds 32-bit capability to the Apple II's normal 8-bit operation with a 68000 microprocessor on board (Randy Paulin). If any other members have cards they believe would be of interest for this meeting, please contact me.

MARCH (Tentative): The First DAUG Auction. An auction for members and guests of computer related materials -- books, magazines, programs, gadgets, used MacIntoshes, etc. This will not only be a "first" for DAUG, but perhaps for any Apple Users Group. Details have yet to be formulated. We must first determine if there will be a sufficient number of participants who have material to auction off. So please let me or any of the other officers know if you have computer related items to sell in this manner.

R. P. Stein

*****

SOFTWARE REVIEW
DOM SPECIAL #9

DIVERSI-COPY

If you are impatient when you want to copy a disc, and COPYA seems to take forever, this program might be for you. I copied a fairly full disc in 27 seconds, compared with 1:37 with COPYA. This is really a time-saver, especially if you have only one disc drive, since you cut down on time taken in changing discs.

As it copies, it verifies, with a

O F F I C E R S

President: (TO BE ELECTED)
VP/Membership: Chuck Jonah, 985-5497
Secretary: Ron Scharping, 968-0157
Treasurer: Ed Danley, 969-4433
Librarian: Priscilla Walling, 964-4894
Program Ch: Ralph Stein, 985-7850
Editor: Bob Konikow, 968-3897
Directors: John Burke, 961-5083
Bruce Mansfield, 420-1608

visual indication, and at the same time, tells you whether your writing disk is operating at the right speed. If you are making multiple copies of a disk, and have enough memory, you can cut the time down to 18 to 20 seconds per disc. Other options formats data discs, and there is a bonus aerial dogfight game as a bonus!

It's easy to get and try with only a small investment, for you can get it on the honor system as our Special #9. If you want to keep it, you send $30 to the distributor, and it's yours. If not, wipe it out and you have a blank disc.

By the way, it's being used by our Librarian to produce all our DOM's.

Robert B Konikow

*****

ADVENTURES IN INTERFACING

Our objective for this month is to determine the acceleration due to gravity (g) by using a simple pendulum. The motion of a pendulum depends upon the force of gravity. The pendulum consists of a weight, called a "bob," suspended from a point of support in such a way that it is free to swing back and forth. The time it takes to swing back and forth once is called its period. The size or extent of the swing is known as the amplitude. If allowed to swing gently so that the amplitude is very small then the period of the pendulum is independent of the weight of the bob, proportional to the square root of the length of the bob to the support, and inversely proportional to the square root of the acceleration of gravity.

The period can be calculated according to the following equation:

$$T = 2 * \pi \sqrt{(l/g)}$$

The accelaration of gravity then is:

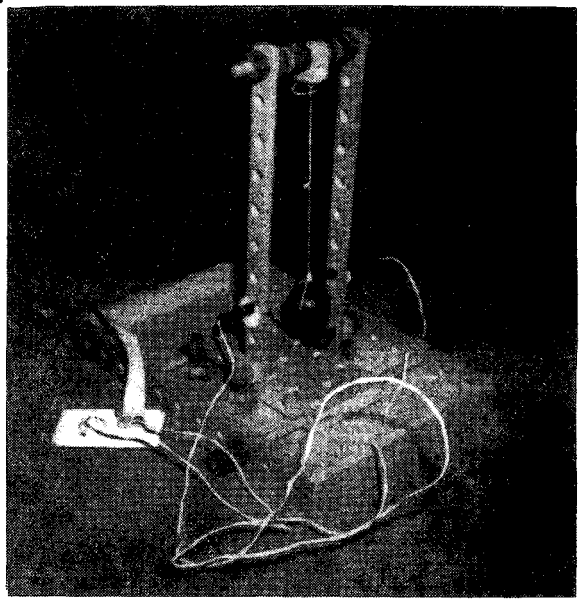
$$g = 4 * \pi^2 * l/T^2$$

All that is necessary to the determination of "g" is to measure the length (l) and the period (T).

This is a simple experiment which can be performed with a stop watch, but we will make it more interesting and automated by using our old friend the Apple game port. We will be using again the digital input port(0) more commonly known as the push button port. Unlike the mechanical switches used in our velocity experiment, this time we will use a photodetector switch. The switch consists of two parts:

1 Infrared Phototransistor
(R.S. #276-145)
1 Infrared LED (R.S. #276-143)

You can build the pendulum from whatever material you like. I used a childs's wooden building set because it had equally spaced holes just the right size to accept my detector-emitter pair. I mounted both pieces in phono plugs just as in the pulse rate device described previously. (This allows me to change detector-emitter combination depending upon the nature of the experiment.) The IR detector-emitter pair should be positioned horizontally at the height of the the center of the bob. The set up should look like the figure below.



The infrared emitter is connected to the game port, by hooking the ground lead (usually the flattened lead of the led) to pin 8 and the other lead to pin 1. The infrared detector is a transistor and thus has three leads. The center lead is not needed here. Connect either of the other leads to pin 2 and the other to pin 1. Connect a 1501S7S resistor from pin 2 to pin 8.

Instead of trying to develop a clock timing program to calculate the period between swings, the following program simply counts the number of times the bob blocks the light as it plots a HIRES screen full of swings. The period then is simply the time it takes to fill the screen divided by the number of swings. My Apple took 6.5 sec to plot 280 points.

```
10  TEXT : HOME : PRINT "SET PENDULUM IN
      SLIGHT MOTION": PRINT
20  INPUT "ENTER LENGTH OF STRING IN
      INCHES:";L
30  HGR : HCOLOR= 3: HPLOT 0,80
40  CT = 0:Y1 = 80
50  FOR X = 0 TO 279
60  BT =  PEEK (49249)
70  Y = 80: IF BT > 127 THEN Y = 30
80  IF Y1 - Y <  > 0 THEN CT = CT + 1:Y1 =
      Y
90  HPLOT  TO X,Y
100 NEXT
110 VTAB 22:CT = CT / 2: PRINT "NUMBER OF
      SWINGS=";CT
120 T = 6.5 / CT: PRINT "PERIOD (T)="; INT
      (100 * T) / 100;" SEC";
130 L = L / 12: PRINT "  LENGTH="; INT (100
      * L) / 100;" FT"
140 G = (4 * L * 3.1416 ^ 2) / T ^ 2
150 PRINT "ACCELERATION OF GRAVITY="; INT
      (100 * G) / 100;"FT/SEC^2"
160 INPUT "RUN AGAIN (Y/N)?";ANS$
170 IF LEFT$ (ANS$,1) = "Y" THEN 10
180 END
```

Everyone knows that the acceleration of gravity at sea level should be 32 ft/sec^2. This experiment can come pretty close if you keep the amplitude small (not more than seven or eight swings per screen). Otherwise the above equations don't work.

I would love to hear from anyone who has tried my experiments or made any modifications and improvements to them. Since developing experiments takes time I'll continue this column only if you let me know that you are interested.

Priscilla Walling

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THE NOVEMBER MEETING

The main topic was programming languages available for Apple IIs. Each of the speakers had been asked to write a program which determined all prime factors of a given number, using the same algorithm, but each in a different language. The general features of these languages were discussed during the demonstrations. In explaining the algorithm, the program chairman displayed a version written in Basic so that actually five languages were covered. Donn Armstrong showed a program written in FORTH (Flex Forth, $30), Bob Kampwirth presented his version in FORTRAN (Microsoft, $250 + CP/M), Rodney East covered PASCAL (Borland's Turbo Pascal, $50 + CP/M), and Stewart Schmukler discussed MODULA-2 (Volition Systems, $300 + Pascal Operating System).

Judging from members' comments during and after the meeting, the topic seemed to be exceptionally interesting and enjoyable to those attending. A large part of this favorable response was no doubt a result of the excellent presentations given by the four individuals noted above. They certainly deserve an extra measure of thanks from all. But there are other programming languages, or the same languages in different operating systems, for Apple IIs that obviously could not be covered for lack of time. Should we do a "Part 2" of this same topic at another DAUG meeting? Let me know your thoughts about this.

R. P. Stein

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DISK WRITE PROTECT SWITCH

As many of you know, an electrical switch can be installed on Apple Floppy Disk drives that will disable or enable write protection independently of the disk notch or write protect tab. A switch of this type is useful for writing to the backside of ordinary disks without having to cut a notch into the disk, or to write protect the disk without a write protect tab. Josh Stein has offered to install switches of this type on your disk drives for a nominal fee. Installation of a two-position switch (Normal/Disable Write-protection) is $15, of a three-position Switch (Normal/Disable/Enable Write-protection), $20. Call Josh at 312-985-7850 for further details.

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THE TIME-SHARE PENCIL
A Fantasy for Our Times

After learning recently of a classroom in India that has only one pencil for 30 students, I considered the parallels implied for microcomputers in American schools. To provide a new perspective on the problem and prospects of accommodating to computer use in education, I have invented a fantasy:

Johann Pestalozzi (1746-1827), a forward looking Swiss educator, has just received a response from the School Committee regarding his request for classroom sets of pencils. Although pencils as we know them had been developed in 1565, these tools did not become commonly available until about 1800 -- technological advances were rapidly lowering price per unit.

TO: Johann Pestalozzi, Headmaster
FROM: School Finance Committee
RE: Your Request for Student Pencils

We must regretfully respond that your request is denied. After careful consideration of your unprecedented proposal to provide each student with a pencil, the Committee has elected to purchase only one such unit for use in your classroom. The rationale for the Committee decision is enumerated below, followed by querires to which you must respond (in triplicate) after field-testing the pencil.

a. Pencils are fragile and break down easily owing to primitive technology.
b. Acquisition of pencils in quantity leads inevitably to requests for other expensive peripherals such as sharpeners, erasers, tablets, etc.
c. We cannot justify the expenditures for these systems to patrons whose education was perceived as adequate without any such paraphernalia.
d. The Committee expressed doubt that students would use the requested pencils for activities more substantial than doodling or tic-tac-toe.
e. We strongly suggest you reconsider your proposal to allow pencils to work ciphers and related mathematics. Apart from the loss of requisite mental rigor implied by your position, what will happen if students become dependent on pencils to solve problems but cannot locate such in time of need.
f. Appropriate usage of pencils presumes teachers who know how to incorporate them into classroom activities. Yet very few teachers have such skills; thus pencils would probably be relegated to storerooms.

Within two weeks of the close of the annual school session, the Committee would like to receive your answers to the following questions:

a. Does the requested apparatus have applications in schooling beyond the working of ciphers?
b. Do you recommend the creation of a new discipline of pencil literacy? If so, which of the present legitimate disciplines should be dropped in order to accommodate the new course?
c. Is this "new tool" (as described by you) especially useful for specific sub-groups, e.g. the particularly dull or perhaps the brightest?
d. Do students from rich families having pencils in the home distance themselves in achievement from those who do not?

In closing, the Committee feels compelled to remind you that Aristotle managed to become educated quite satisfactorily without benefit of a pencil.

Jack Turner

(From Apple-Dayton, Sept 84, which got it from Applegram(Dallas), which got it from mini'app'les'(Minneapolis), based on a speech by Lois May, MCSM, Detroit 1983)

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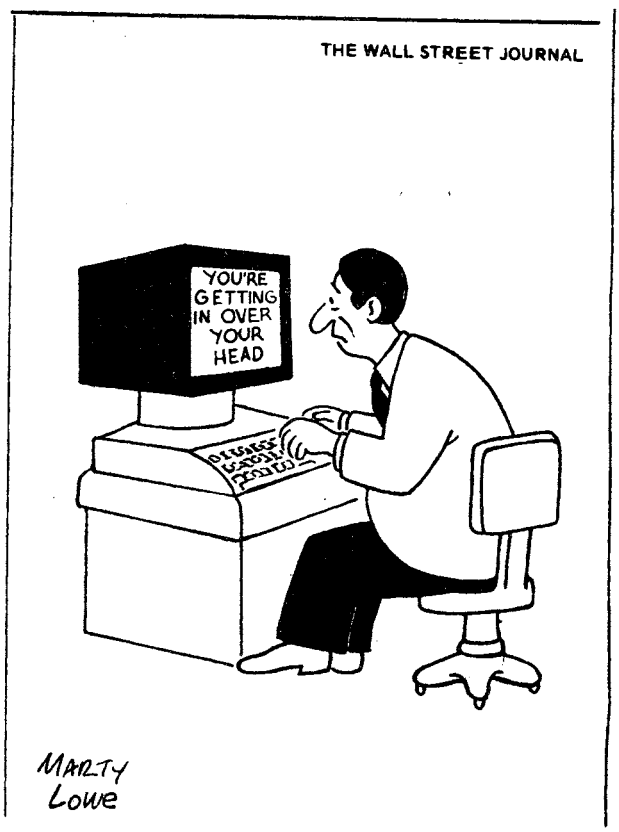

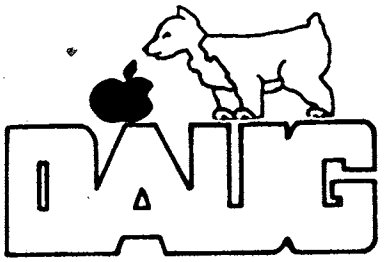

DuPage Apple User's Group
Disk of the Month

VOLUME 41: DECEMBER 1984

A Graphics disk donated by Apple Users Group of Europe

A 009 DOCUDUMP
T 007 HIRES ROUTINES MANUAL
T 014 VSCROLL MANUAL
T 021 LOHI CONVERT MANUAL
T 036 THE LORES WIZARD MANUAL
T 031 SUPER LORES MANUAL
T 009 MULTI MOVE MANUAL
T 010 DISPLAY MANUAL
The textfiles listed above are all read thru DOCUDUMP. They contain details and instruction for the operation of the graphic utilities which bear their name. The descriptions which follow are excerpts from these manuals.

HIRES ROUTINES ... a collection of sophisticated graphic utilities that manipulate whole or parts of whole Apple Hires graphic screens.

HIRES ROUTINES.BIN0 and HIRES ROUTINES.BIN1 ... contain the necessary machine language routines for the main program. They must be on the same disk as they are accessed by the main program.

VSCROLL ... prepares a machine language routine that may be used from your own programs. This routine will produce the effect of one hires screen moving over the other one.

VSCROLL.OBJ ... the master file which is modified by the main program according to your inputs. This file must be on the same disk since it is accessed by the main program.

LOHI CONVERT ... gives you the possibility to convert Apple Lo-Resolution Pictures into Hires-type ones. LOHI CONVERT was primarily written to be able to dump lores graphics on a printer.

SET ... a short binary file that contains a user supplied color set. It is accessed by both LOHI CONVERT and SETEDIT.

SETEDIT ... an editor for the above mentioned user color set.

LORES WIZARD ... a graphic utility that lets you design Apple Low Resolution Pictures on the screen.

LORES WIZARD.//e .. a version that can be used if you own an Apple //e.

SUPER LORES graphics (SLG) ... allows you to utilize Apple's 16 lores colors on a a 120X144 coordinate system. It utilizes a screen window which under control of your program may be moved over the actual plotting area of 120X144 points. A PLOT and SCRN function are provided by SLG as well.

SUPER LORES DEMO ... a first impression of SLG. It needs the SLG driver and the Super Lores picture SL DEMO PICTURE on the same disk.

SUPER LORES CONVERTER ... converts normally saved lores pictures to the SLG format.

MULTI MOVE ... a machine language routine that enables you to move the text or lores screen in all four directions.

FAST MULTI MOVE DEMO ... utilizes lores graphics for a small demonstration.

FAST DISPLAY/SMOOTH DISPLAY ... short machine language routines that transfer a whole lores screen or text page from a higher memory area which holds 16 pictures onto the visible screen.

DISPLAY DEMO ... lets you browse through the currently stored pictures with the left and right arrows.

VISIT OUR FRIENDS!
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A number of local computer stores support our activity by offering the discounts listed below to those who show their membership cards. Stores that sell merchandise to everybody at a discount are not included.

Byte Shop of Darien, 8105 S Cass Av, Darien (960-1422) -- 10%
Computer Grove, 1121 Warren Av, Downers Grove (968-0330) -- 10%
Computer Junction, 543 S York Rd, Elmhurst (530-1125) -- 15%
Computer Junction, 7 S LaGrange Rd, LaGrange (352-4800) -- 15%
Computer Workshop, 1626 W Ogden Av, Downers Grove (971-0004) -- 10% on training and rentals; none on consulting or programming
ComputerLand, 136 Ogden Av, Downers Grove (964-7762) -- 5%
Farnsworth Computer Center, 1891 N Farnsworth Av, Aurora (851-3888) -- 15%
Farnsworth Computer Center, 383 E North Av, Villa Park (833-7100) -- 15%

Frequently a smaller discount is offered if a credit card is used. If a store would like to be included in this listing, please write the editor and give us your discount schedule for Apple-User Group members.

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P O Box 294
Downers Grove IL 60515
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The mailing label to the right is the only notice you will get that your membership is expiring. If you let your membership lapse, you will have to pay another initiation fee of $8, plus your $12 dues, to get back on our list.

FIRST CLASS