# THE DELAWARE VALLEY USERS GROUP
## P.O. BOX 6240 STANTON BRANCH, WILMINGTON DE 19804
### DEDICATED TO TI-99/4A HOME COMPUTER USERS
<u>MEETS 4TH THURS. EA. MONTH/6:30-9:30 P.M./CHRISTIANA MALL COMMUNITY ROOM</u>

### HIGH NOON AT THE HIGH SCHOOL: MOM AND MODEM TO THE RESCUE

If you were Dirk, what would you do? (Oops, wrong story.) There wasn't much choice for our Delaware Valley Users Group (DVUG) "Adventure Buster", Domenic DiStefano, on his concluding day of Civics class earlier this month. Dom had worked dilligently the night before, making last-minute revisions for a final paper at semester's end. His last report looked great, he thought.

But alas, it also looked quite different from the material which emerged from his briefcase when he arrived at school. (Oh no, he'd brought the previous draft, instead!) As fate would have it, classes ended on a heavy snow day — it wasn't feasible to attempt a lunchtime trip home and back before class convened.

While other 15-year-olds may use a typewriter, Dom prefers the Editor option of the Editor/Assembler module for writing his term papers ... and therein lay his salvation. As a Freshman at Wilmington's McKean High School, Dom earlier this year had discovered the Digital computer printer terminal which his school uses for educational services. Having demonstrated his familiarity with modems through his DVUG contacts, Dom had received permission to call our TIBBS on the school's interface over lunch hours, and had done so previously several times.

This time he promptly called his mother. Talking her through the procedure, substituting common sense for the unavailable E/A manual, Dom brought up the file he had used the night before, and had it PRINT to the RS232 interface. Through the telephone and onto the school printer came the needed document, in time for class and a very important grade. Kudos to Dom and Marie for a different hacker's approach at influencing school records.

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**DVUG EXECUTIVE COMMITEE FOR 1985**

| | |
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xxxx

NEWSLETTER EDITOR  Jack Shattuck

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FEBRUARY MEETING: PARTY TIME! We start our third year together as an organized Users Group. To be of greater support to all of our members, Resource Listings will be published in The Data Bus.

EXTENDED BASIC IS BACK !!!

Available for purchase at DVUG's regular Feb. 28th meeting. !!!

### REVIEW FROM JANUARY MEETING: A SORTED AFFAIR...
### (By Program Chairman Jim Davis)

At our last meeting, we discussed the simplest form of sorting – alphabetizing. It is an algorithm called the BUBBLE SORT. It has little to recommend it other than its simplicity, although for fewer than 20 items it can be faster than other sorts which have substantial setup time.

The essence of the bubble sort is a comparison of each member of a list with its neighbor, exchanging them if the neighbor is smaller. Thus each time these comparisons are run through the list, a small member moves up one notch. If there are J members in the list, it will take up to J-1 passes (worst case) to move the smallest member from the bottom to the top. Rather than pass through the list J-1 times, it is usual to have a FLAG which indicates when the list is in order, i.e., the sort is complete. Thus the bubble sort in Basic would be;

```
110 MORE=0                          FLAG FOR COMPLETION ("NO MORE")
120 FOR X=1 TO J-1                  LOOP FROM TOP TO NEXT TO BOTTOM
130 IF A$(X)<=A$(X+1)THEN 18        IS MEMBER SMALLER THAN NEIGHBOR?
0                                   IF SO, MAKE NEXT COMPARISON
140 MORE=-1                            IF NOT, SET THE FLAG AS TRUE
150 T=A$(X)                            SAVE MEMBER IN A TEMPORARY PLACE
160 A$(X)=A$(X+1)                      SWAP WITH ITS NEIGHBOR
170 A$(X+1)=T$                         FINISH THE EXCHANGE
180 NEXT X                          NEXT LOOP SEQUENCE
190 IF MORE THEN 110                IS THERE MORE TO DO?
```

NOTE: When MORE=0, its logical value is False, so the Then follow-up is not executed; the sort is done. (See Pg. 42 of TI Extended Basic manual.) If you are uncomfortable with the syntax in 190, then use the form: IF MORE=-1 THEN ...

In the above, the comparison of a string variable (A$) is like comparison of a decimal fraction, in that the digits are compared left to right. The value of the "digit" is the ASCII value for that character (Appendix C, Pg. 196, TI Extended Basic). Thus,

| | | | | |
|---|---|---|---|---|
| JIM | 74, | 73, | 77 | |
| JOHN | 74, | 79, | 72, | 78 |
| ADAM | 65, | 68, | 65, | 77 |

Since "A" is less than "J", i.e., 65<74, ADAM will bubble up to the top. Of the two remaining, the second character or "digit" will be needed to distinguish the size.

Jack Thorpe, our outgoing president, asked how to manage a list like a club membership roster when it may be desirable to sort by Name for meeting attendance sheets, yet by ZIP for mailing (non-profit bulk). TI Basic permits multidimensioned string arrays, unlike most other Basics, so we'll use that to advantage. Thus A$(1,1) is the first member (of the club, or the array), and the first item is the Name; A$(1,2) still refers to the first member, but the second item is the ZIP. Hence, A$(2,1) is the second member, with the first item being the Name, and so on. The resultant, slightly enlarged, program listing in that format appears on the next page.

A SORTED AFFAIR (Continued...)

```
10 REM  THESE EXAMPLES WERE
USED AT THE MEETING:
20 DIM A$(10,2)
30 A$(1,1)="JIM" :: A$(1,2)=
"19810"
40 A$(2,1)="JOHN":: A$(2,2)=
"19808"
50 A$(3,1)="ADAM":: A$(3,2)=
"19805"
60 J=3
70 INPUT "SORT BY NAME OR ZI
P (N/Z?)":T$
80 K=1::IF T$="N" THEN 110
90 K=2::IF T$<>"Z" THEN 70
----------------------------
110 MORE=0
120 FOR X=1 TO J-1
130 IF A$(X,K)<A$(X+1,K)THEN
180
140 MORE=-1
150 T1$=A$(X,1)::T2$=A$(X,2)
160 A$(X,1)=A$(X+1,1)::A$(X,
2)=A$(X+1,2)
170 A$(X+1,1)=T1$::A$(X+1,2)
=T2$
180 NEXT X
190 IF MORE THEN 110
```

```
200 REM NOW IT'S SORTED, SO HERE'S
THE PRINTOUT:
210 FOR X=1 TO J
220 PRINT A$(X,1),A$(X,2)
230 NEXT X
```

"K" IS THE KEYWORD ON WHICH TO SORT

ON THE CURRENT RESOURCE SCENE:

Intellestar, 25 W. Middle Lane, Rockville, MD 20850 (301) 251-0046 (15 XBASIC programs) and Scott, Foresman are having giant closeout sales this month; all the latter's cartridges are selling at $4.95 each and are being grabbed by school systems en masse. SF's electronic publishing division is headquartered at Glenview, IL (312) 729-3000 Ext. 2567, but orders are being taken by mail and shipped from the warehouse, 400 S. Edward St., Mt. Prospect, IL 60056. A listing, which includes many items never offered to the public before, will be available at the DVUG meeting Feb. 28th.

Another approach taken was that of Instrumental Software Systems (ISS), 311 Maple St., Danvers, MA 01923 (617) 774-3723, which put a dozen game, music utility and math/engineering programs into public domain a few months ago, available for just the cassette plus shipping and handling charges. Many of these close-out items are announced in audience-specific bulletin boards or publications only, but not to the general public.

Like this advance peek, available from Amerisoft International:

SKETCH MATE is out for SUPER SKETCH, allowing TI users to save/load artistic creations via disk, plus a double size/height shaded bit map screen dump. Requires 32K Expansion Memory; either E/A, XBasic or MiniMem, AND the Navarone WIDGET ("Cartridge Expander"). $29.95 from Amerisoft International (800)845-8380.

If you have MiniMemory but no E/A and wish to run TI FORTH, we were advised that the rewritten FORTH loader designed to work with the CorComp Disk Controller runs like a charm with MiniMem. Your Newsletter editor is most appreciative of friends who bring Compuserve/Source or other BBS items to our attention.


TECHNICAL BASICS: HOW DO I THINK AHEAd? ...CALLing AIDS...

Our last issue suggested using OPEN #1:"PIO", VARIABLE 132 to print 132 columns of condensed type (after changing your print mode, of course). But how can you give such a command, when even in XBasic 5 lines (x28 characters) using PRINT #1:"ABC..." etc. produces only 129 characters (less with Line numbers)? The answer is to write the print statement out to its maximum length, whether in Basic or XBasic. Then edit the line by calling it up, moving the cursor to the end of the line, and keep typing over the previous end quotation marks until you reach the desired length.

Sound CALLs are popular, especially for approval as well as error cues. Here's a spirited Charge! reward for good work (Delete colons and enter on separate lines for Basic instead of XBasic):
CALL SOUND(110,262,1) ::CALL SOUND(110,330,1) ::CALL SOUND(110,392,1) ::CALL SOUND(298,523,1) ::CALL SOUND(95,392,1) ::CALL SOUND(350,523,1)

Use the favorite "UH-OH", CALL SOUND(150,330,2) ::CALL SOUND(150,262, 2), or this more highbrow disapproval: FOR A=1 TO 3 :: CALL SOUND(250, 392,1) ::NEXT A ::CALL SOUND(650,310,1)

Finally this issue, for our friends who have moved up to an expansion system yet haven't accepted how easy it is to save on disk: If you have extra 32K Memory, to avoid hitting FCTN <QUIT> instead of SHIFT <+> - to avoid losing your program, disable the QUIT key with these commands from XBasic: 1) CALL INIT 2) CALL LOAD(-31806,16) then go on. Say BYE, not Quit. To restore, use CALL LOAD(-31806,0) instead. Or turn off console.

RESOURCE LISTING FOR TEXAS INSTRUMENTS-99/4A HOME COMPUTERS

(These listings are provided as a convenience by the Editor, and do not constitute an endorsement by the Delaware Valley Users Group. They are provided to help some of our members realize the variety of resources available to them as TI users in 1985.)

SUBSCRIPTION PERIODICALS (Due to postal increases effective February 17, prices may increase with new subscriptions):

COMPUTE! $24/12 ISSUES; P.O. BOX 914, FARMINGDALE, NY 11737
Monthly magazine with some TI program listings and commentary, having issued 9 TI-specific paperbacks (and parts of others), including: 33 Programs for the TI-99/4A; Guide to TI-99/4A Sound and Graphics (for XBasic); TI Collection, Volume One; and Beginner's Guide to Assembly Language on the TI-99/4A (for Mini-Memory). Buy two of those 4 and get 15% off, or buy all 4 for $39.95, during a sale expiring April 30, 1985; normally $12.95/$14.95 each. (800)334-0868

COMPUTER SHOPPER, $15/12 ISSUES; P.O. BOX F, TITUSVILLE, FL 32781
Newspaper (over 200 pages) contains articles, classifieds, lists of bulletin boards and user groups throughout U.S., computerfests and ads for everything in computers. DVUG members attending our Feb. 28 meeting can get a 6-month subscription for $5, as a User Group special.

FAMILY COMPUTING, $19.97/12 ISSUES; 730 BROADWAY, NEW YORK, NY 10003
Really does cover family computing needs; runs programs simultaneously for TI and other languages, draws ads for TI software as well as letters from TI readers keeping editors up to date.

HOME COMPUTER MAGAZINE, $25/10 ISSUES; P.O. BOX 5537, EUGENE, OR 97405: Now irregularly publishes for several computers. In earlier version as 99er Magazine, issued excellent TI articles, programs, etc., which can still be obtained as BEST OF 99er (Vol. I) softbound, and 14 issues (Vol. I:6 and Vol. II), with many programs on tape or disk. Those earlier issues are a must for TI users.

MICROpendium, $15/12 ISSUES; P.O. BOX 1343, ROUND ROCK, TX 78680
Invaluable growing (40 pg.) newsmagazine which is rapidly filling role 99er used to have of useful programs, reviews, ads and articles.

SMART PROGRAMMER, $15/12 ISSUES; 1475 W. CYPRESS AVE., SAN DIMAS, CA 91773: Craig Miller, author of Millers Graphic's Smart Programming Guide For Sprites ($5.95), wrote several XBasic programs then went on to Assembly Language and continues to help everyone clearly understand the amazing things your TI system can do, with lucid demonstrations.

TIPS FROM THE TIGERCUB, 156 COLLINGWOOD AVE., COLUMBUS, OH 43213
Orinally published only in exchange for User Group newsletters, this colection (18 issues so far) of entertainment and great utility routines is available to others. $15 for TIPS #1-14 (50 programs) on disk; $19.95 for NUTS & BOLTS, 100 XBasic utility merge programs on disk; and TAPE OWNERS - and all others- can order Catalog #5 for $1, listing 130 Basic and XBasic tape/disk programs.

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FEB. 28TH TOPIC: NOW AFFORDABLE VOICE
RECOGNITION FOR YOUR T.I. -
ANOTHER LOOK AT THE MBX EXPANSION

THE DELAWARE VALLEY USERS' GROUP
P.O.BOX 6240
STANTON BRANCH
WILMINGTON, DE 19804

USA 20c

**FIRST CLASS MAIL**

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P.O. BOX 11983 EDMONTON
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Next DVUG Mtg. - Thurs. Feb. 28th    RED LABEL? RENEWAL DUE!