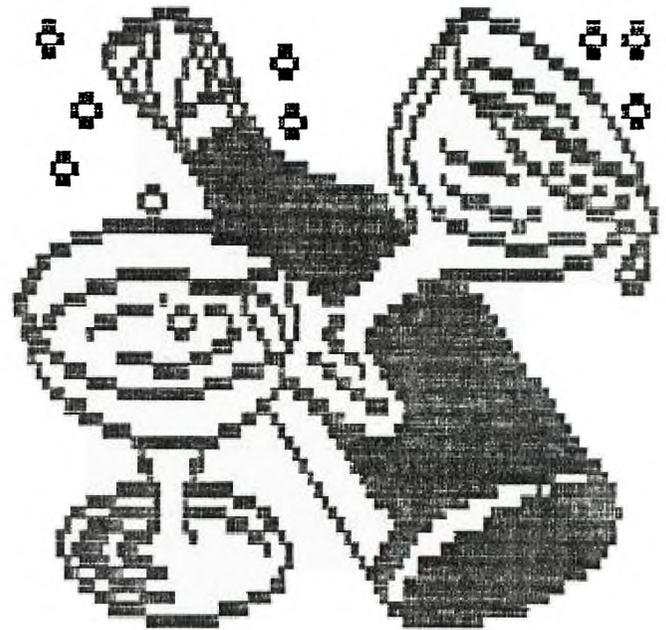


HAPPY NEW YEAR

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8801
VAST

FROM THE
VAST USER
GROUP



VOL. 4

JANUARY 9, 1988

NO. 1

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----- JANUARY, 1988 -----

VAST INFORMATION

The VAST USERS' GROUP is a support group for Home Computer users. We primarily support the TI-99 Home computer and compatibles, but all computer users are welcome. Our regular meetings are on the second Saturday of the month. We meet in downtown Phoenix at the Park Inn International Hotel at 401 N. First Street in the Phoenician Room. The meetings start at 10:00 AM and continue until 11:00 AM with socializing starting at 9:00 AM. The yearly membership fee is \$6.00.

All meetings are open and anyone may attend. Only dues paying members may vote in elections and obtain programs from the Users' Group library.

THE CURRENT OFFICERS ARE:

- President
Bob Nixon.....897-6204
- Vice-President
Ike Van Kampen.....934-5164
- Secretary
Stu Olson.....846-7624
- Treasurer
Earl Bonneau.....269-3802
- User Group Librarian
Earl Bonneau.....269-3802
- Newsletter Editor/BBS SysOp
Jim Ely.....921-3375

Newsletter subscriptions are available for \$12.00/year, First Class Mail. If a date appears in the upper right hand corner of your mailing label, this is your subscription expiration date. Address renewals to the return address on address page.

The Users Group's BBS is in operation 24 hours a day. Contact it at (602) 437-4335. There are 3 message bases, a TI specific download section, and a lot of interesting

* Valley of the Sun T Users Group *

conversation and information available here so why not give it a try.

Deadline for submission of articles or advertising for the Newsletter is the last Saturday of every month. Articles may be submitted in any form, however, the preferred method is by phone transfer directly to the Editor.

Advertising rates are as follows:

Commercial:

- Full Page \$10.00
- Half Page \$ 7.00
- Quarter Page \$4.00

Personal:

- Four lines,
30 Characters/line
\$1.00
\$.20 per line
over four.

All rates are for ONE issue only!

Programs are available from the USERS' GROUP LIBRARY at the following rates:

- SS/SD Disk \$2.00
- DS/SD Disk \$4.00

If copying of documentation is required, it will be at the rate of \$.10 per page. If the User Group supplies the disk, please add \$1.00 to the above charges. An exchange program for free programs is also in effect. Please contact the librarian for further information. A complete list of what is in the library is available on 2 disks free of charge if you supply the disks or for \$1.00 per disk if the User Group supplies the disks.

* Valley of the Sun T Users Group *

----- JANUARY, 1988 -----

SECRETARY'S SLATE

MINUTES
December 12, 1987
VAST User Group

The December meeting of the VAST User Group was called to order at 10:07 a.m. on Dec. 12 by President Bob Nixon.

One item of old business was brought up, that being the program for the January meeting. In November, it was indicated that a demonstration of the Amiga computer by Computer Discount would be supplied. Several members mentioned that it might be a good time to have a telecommunications demonstration since several of the members had acquired new modems. The Amiga demo has been rescheduled to February with the modem program slated for the next meeting on January 9th.

Bob Koons of the Info committee provided discussion on several interesting topics. Articles concerning IC chip manufacturing, CD rom storage, and computer crime were among those discussed by Bob. Imagine, 1 gigabyte of data stored on a CD rom!

The Geneve 9640 computer was brought up in discussion also. It seems that MDOS is just about finished and most of the bugs ironed out. The most current version has finally climbed to 1.0. Jerry Liddell described some of the things he has been doing with his 9640.

Stu Olson announced that his BBS has been taken off line. Stu has sysoped a BBS for more than 3 years, both here and in Chicago. Over the past 6 months, a steady decrease in use had been noticed. When the BBS was finally taken off line, the average daily use was down to just over 3 hours per day. Due to the low use and cost of the BBS hardware, it was decided to remove it from service.

The remaining portion of the meeting was spent by the members wishing each other holiday greetings. The meeting was closed at 11:05 a.m.

Stu Olson,
Secretary,
VAST User Group

From the Editor's Desk

Happy New Year!!

IN THIS ISSUE...

Computer Tutor is on page 6 and this month discusses the PRINT and REM statements. This Month's Program starts on page 7 and is by Tom Freeman of the LA 99'ers. This program creates checksums for X-BASIC program lines and will help you when copying programs from magazines and other newsletters. The program is beginning to get wide-spread use and MICROpendium has announced it will be running all of its X-BASIC programs through it for more accuracy. Beginning next month, we will also use it for programs that we list.

AND FURTHER MORE..

In the November issue, I published an article by Ike Van Kampen that basically gave a review of the changes that had occurred to the group last Summer. The October and November issues of the newsletter were mailed together in late November to the User Groups we exchange with. In mid December I received, via the BBS upload section, a reply to Ike's article by Mr. Harry T. Brashear, President of the Western New York 99'ers User Group. The "Open Letter" has been in the Bulletins section on the BBS since the day it was uploaded. Shortly thereafter, I received a reply from Rene' LeBlanc and also from Ike. These were also put on the BBS. What follows are the three letters so that those folks that don't have the opportunity to get on the BBS may see what has been going on. I would like to encourage any comments YOU may have. Please send comments to:

Jim Ely, Editor
VAST User Group Newsletter
c/o 2120 S. Los Feliz Dr.
Tempe, AZ 85282-2905

OR

upload your comments to the BBS.

Any comments received will be published in the newsletter and put in the Bulletins section of the BBS.

That's all for this month. Jim.

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Editor's Desk Continues. . .

"I am so sorry that you have been lead down the garden path away from your beloved TI computers."

is truly pregnant with various assumptions and implications of attitude. I'm not complaining, mind you, it is certainly your prerogative to have your own opinion about this matter with whatever conviction seems appropriate to you. It also provides the nucleus for more lively discussion than if you had only said something like, "I am sorry to see the VAST organization drifting away from its original single-computer orientation".

From my vantage point, as one of the earliest VAST members, I saw the following things happening:

- (1) There were always a core group of 6-10 movers and shakers who provided the main energy and direction for the group.
- (2) These people were also the most likely to be interested in new technology and opportunities to learn new things.
- (3) These people began to acquire clones and other computer types that provided different capabilities and software along with opportunities for learning.
- (4) As the energy of this core group turned somewhat (not completely) away from the TI, the remaining VAST members who stayed with TI only did not step in to provide the energy the original leaders had been giving to the group.
- (5) Meeting attendance began to drop, and there were fewer contributions to the club newsletter. Participation on the BBS began to wane.

(6) The leaders of VAST, including most of the remaining original leaders, decided the group needed to reassess the interests and needs of the members. The decreasing participation was a clear indication that there just wasn't enough interest in a TI-only organization anymore. This was not some faction that suddenly decided to take control of a perfectly functioning TI club and subvert it into another direction to fulfill their own needs.

(7) The decision to redefine VAST as a multi-brand computer group was an attempt by the leaders to meet the changing needs of its membership and to keep the energy of the original movers and shakers IN the group so that they would still be available to other members who prefer to own only their TI(s).

An organization like VAST does not require compulsory membership and participation in all club events. It cannot punish its members for getting interested in and purchasing other computer brands. Its usefulness lies in the common interests of its members and in providing a forum by which they can share experience, knowledge, software and friendship. When members do not come to meetings and do not renew memberships and do not communicate on the BBS, the purpose and main values of the organization are not being served.

The shift of member interest to other brands was not due to being lead astray by the VAST leaders. It was due to the fact that the TI-99/4A is being continuously outflanked by newer machines with active market presence, ongoing vendor and third-

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The Elements of BASIC

by Dave Howell

(Courtesy Erie 99'er User Group)

Part 6

PRINT and REM

One of the most used statements in BASIC is PRINT. Messages may be printed by typing PRINT followed by the message within quotation marks. More than one message may be placed in the same PRINT statement by putting each message in its own set of quotation marks. Print separators - either a colon, a comma or semi-colon - must be placed between each quoted message. TI BASIC interprets the print separators as instructions.

A colon tells the computer to go to the next line: several colons in a row make the computer skip several lines.

Semi-colons tell the computer to join two string messages (within quotes) together with no spaces between them.

Commas tell the computer to start printing messages at the beginning of a field. On the TI, there are two fields of fourteen (14) spaces each.

Enter this program and observe the results:

```
10 PRINT 1,2
20 PRINT 1,2,3,4
```

```
30 PRINT 1:2
40 PRINT 1:2:3:4
50 PRINT "HI","FRIEND"
60 PRINT "HI":"FRIEND"
70 PRINT "HI ":"FRIEND"
80 PRINT "GUM":
90 PRINT "BALL"
```

Notice the spaces between the numbers in the printouts for lines 30 and 40. The TI leaves a space between numeric data for minus signs, if any.

Enter this program and observe the results:

```
10 REM COLONS SKIP LINES
20 PRINT ::: "HERE ARE THE CO
LONS"
30 PRINT : "THEY ARE SPACE-HA
PPY"
40 PRINT : "GOOF": "BALL"
```

After RUNNING this program, LIST the program.

REM means "remark". Anything that comes after REM is ignored when the program is RUN. REM statements are used to explain various parts of a program to other programmers and are considered good programming manners.

D.H.

----- JANUARY, 1988 -----

THIS MONTH'S PROGRAM

CHECKSUM

By Tom Freeman

This article and the accompanying programs first appeared in the LA Topics, the newsletter of the Los Angeles 99/4A User Group. Future program listings in the VAST Newsletter will be processed through the CHECKSUM program to help insure more accurate listings. Two forms of the CHECKSUM program exist. The one published here is a CALL LOAD version for Extended Basic. The other is an Assembly Language version of the same thing and will be published in a future issue.--Editor

Have you ever typed in a TI 99/4A version of a BASIC program from a magazine and noticed that the versions of the program for other computers have little numbers at the end of the lines that you don't have? They were for error checking on your typing, to insure no mistakes.

Have you ever laboriously typed in a long program and run it, only to find that it crashes? Or doesn't work as it is supposed to, all because of a simple typing error that you can't find?

So, why doesn't TI have one? Now you do!

This may be the most useful program that I have published for general use, because almost everyone does BASIC programs at one time or another. It involves only one extra step for the programmer, and one for the user who is typing the published program in.

It is really a simple method, and depends on the manner in which the TI stores BASIC programs. However, it requires a memory expansion and disk drive and works only in Extended BASIC (although BASIC programs can be entered in XBASIC, SAVED and then RUN in BASIC).

You may remember the format in which "MERGE" type programs are stored on disk. The MERGE format is actually a duplicate of the way in which the actual program is stored in memory, or on disk. The difference is that it is a display type file, with each record starting with two bytes for the line number, and then

the actual program line. In memory, however, the program lines are stored contiguously, and in seemingly random order. (Actually, the order depends on the order in which they were entered.)

A separate line number table is stored below the program area and keeps track of the line numbers and pointers to where each line begins. Each line consists of one byte "tokens" for all reserved words with all strings, including the names of subprograms such as LOAD, SCREEN, etc. being spelled directly.

When you enter any line in Extended BASIC (either a command or program line with the line number coming first), it is first moved to the so-called "edit buffer" at address >800 in VDP. The BASIC bias is preserved. The purpose of this is that if you press FCTN 8 (REDO) then the whole line or lines can be retrieved.

Next, everything is "crunched" by replacing each reserved word with its token, subtracting the BASIC bias from strings, computing their length, etc. and placing the result in the "crunch buffer" at >820 in VDP. Once it is there, it can be transferred to the appropriate place in memory expansion. This is the area that is used when my program computes the "checksum" by merely adding the value of each byte! The number is never allowed to go over hex >FF - the high byte is ignored (thus, in decimal, no number over 255). The assumption is that it is extremely unlikely, probability approaching zero, that a small number of mistakes will result in a number that differs by exactly 256 or a multiple thereof. The one exception is that if you transpose two characters, there's nothing I can do about that.

Now, what does the programmer do? First, his program must be completely debugged, as no changes may be made after the checksums are computed, or they will, of course, differ. Next, he SAVES his program in MERGE format. Now, the following program must be RUN on the result:

```
100 !CREATE CHECKSUMS FOR XB
ASIC PROGRAMS, BY TOM FREEMA
N, LA 99'ERS !250
```

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THIS MONTH'S PROGRAMS

```

110 !SHOULD BE USED TOGETHER
    WITH "CHECK" ASSEMBLY FILE
    THAT WILL PRINT CHECKSUMS ON
    SCREEN !099
120 DISPLAY AT(2,1)ERASE ALL
    ;"CREATE CHECKSUMS FOR XBASI
    C ERROR CHECKING": ;" by Tom
    Freeman" !085
130 DISPLAY AT(10,1):"INPUT
    MERGE FILE?":" DSK1." !007
140 DISPLAY AT(13,1):"OUTPUT
    MERGE FILE?":" DSK1." !108
150 ACCEPT AT(11,3)SIZE(-15)
    BEEP:I$ :: OPEN #1:I$,VARIAB
    LE 163,INPUT !192
160 ACCEPT AT(14,3)SIZE(-15)
    BEEP:O$ :: OPEN #2:O$,VARIAB
    LE 163,OUTPUT !053
170 DISPLAY AT(20,1):"ANALYZ
    ING LINE":"CHECKSUM IS " !01
    4
180 LINPUT #1:A$ :: IF LEN(A
    $)=2 THEN CLOSE #1 :: PRINT
    #2:CHR$(255)&CHR$(255):: CLO
    SE #2 :: STOP !115
190 Z=ASC(A$)*256+ASC(SEG$(A
    $,2,1)):: DISPLAY AT(20,15)B
    EEP:Z !141
200 B$=SEG$(A$,3,163):: L=LE
    N(B$):: IF L>157 THEN 230 !1
    62
210 N=0 :: FOR X=1 TO L :: Y
    =ASC(SEG$(B$,X,1)):: N=N+Y ;
    ; NEXT X :: N=N AND 255 :: N
    $=STR$(N):: N$=RPT$("0",3-LE
    N(N$))&N$ !088
220 DISPLAY AT(21,13)BEEP:N$
    :: PRINT #2:SEG$(A$,1,L+1)&
    CHR$(131)&N$&CHR$(0):: GOTO
    180 !252
230 DISPLAY AT(22,1)BEEP:"WA
    RNING!":" LINE":Z:"IS TOO LO
    NG!":"PRESS ANY KEY TO CONTI
    NUE" !123
240 CALL KEY(0,K,S):: IF S=0
    THEN 240 ELSE PRINT #2:A$ ;
    ; GOTO 180 !232

```

Notice the exclamation and three numbers at the end of each line? The program was RUN on itself!

Here is what happens: each record of the MERGE file is read in, the

first two bytes ignored (we don't need the line number) and the rest are added up.

Next, the identical record is printed to the output file, with the addition of the token for "!" (REMARK) and the three character of the checksum. This will work even if the program line already contained a REMARK (as in lines 100-110). *The user must not type these characters, since they were not computed into the checksum.* At the end (it may take a while with a long program, but only needs to be RUN once), the programmer types NEW and MERGES in the output file, then SAVES it in the normal mode, or LISTs it to a printer, or whatever. This is the form to be published.

What the user must do once is type in the CALL LOAD version of the object code for the CHECKSUM program. Then SAVE the program to disk (CHECKSUM would be a good name to save it under!). Then RUN the program.

What the assembly routine "CURSOR" does is some housekeeping, such as moving the numbers 0-9 to character sets 13-14, changing the colors there, redefine the cursor, put up the title screen, etc. and then turn on the user-defined interrupt. Now, at every VDP interrupt (each one-sixtieth second), the routine at CHECK begins. The interrupt can be turned off with CALL LINK("OFF") and back on with CALL LINK("ON") at any time and the shape of the cursor will tell you which mode you're in. Every time you enter a new program line (and for some reason after FCTN 8 even if no changes are made) the checksum will appear at the bottom of the screen and one extra line scrolled up. Here is the key -- it should correspond to the one published that you are attempting to copy in. Hence, no errors!

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THE 7.7H'S CONTINUES

I spent many hours with MG Explorer, by Doug Warren, finding out what is going on when you enter a line in Extended BASIC. The address range in GROM of >6AA0 to >6ADB should be broad enough to cover the various versions of XBASIC, since they differ by a few bytes here and there (the range needed in my module was >6AAE to >6ACA).

I hope that everyone finds this program useful and that it is widely used. I would like to thank Doug Warren for writing Explorer, without which I could not have done this, since I needed to find out where XBASIC does what. And I would like to thank Craig Miller for his invaluable help and advice while I was writing the program.

```

1 !CALL LOAD VERSION OF OBJE
CT CODE FOR CHECKSUM PROGRAM
, BY TOM FREEMAN,LA99ERS !20
0
100 CALL INIT :: CALL LOAD(9
460,0,0,0,0,0,106,160,106,
216,0,10,11,13,0,0)!180
110 CALL LOAD(9484,0,126,66,
66,66,66,126,0,31,31,32,32,8
8,66,65,83,73,67,32,69)!144
120 CALL LOAD(9504,82,82,79,
82,32,67,72,69,67,75,69,82,3
2,32,32,32,32,32,85,83,73,78
)!107
130 CALL LOAD(9526,71,32,67,
72,69,67,75,83,85,77,83,32,3
2,32,32,32,66,89,32,84,79,77
)!119
140 CALL LOAD(9548,32,70,82,
69,69,77,65,78,44,32,76,65,3
2,57,57,69,82,83,2,132,0,10)
!052
150 CALL LOAD(9570,17,2,2,36
,0,7,2,36,0,48,192,68,2,33,0
,176,6,193,4,32,32,32)!199
160 CALL LOAD(9592,4,91,2,0,
3,240,2,1,37,4,2,2,0,8,4,32,
32,44,2,0,4,128)!121
170 CALL LOAD(9614,2,1,39,22
,2,2,0,80,4,32,32,44,2,0,7,0
,4,32,32,36,4,32)!166
180 CALL LOAD(9636,32,24,0,3
8,2,2,37,22,2,3,96,96,2,4,0,
36,192,66,172,131,6,4)!204
190 CALL LOAD(9658,22,253,2,
0,2,228,2,2,0,24,4,32,32,36,
4,32,32,24,0,38,2,0)!067
200 CALL LOAD(9680,2,228,2,1
,37,46,2,2,0,24,4,32,32,36,4
,32,32,24,0,38,2,0)!020
    
```

```

210 CALL LOAD(9702,2,228,2,1
,37,70,2,2,0,24,4,32,32,36,2
,0,3,240,2,1,37,12)!006
220 CALL LOAD(9724,2,2,0,8,4
,32,32,36,2,0,38,36,200,0,13
1,196,4,91,2,0,3,240)!119
230 CALL LOAD(9746,2,1,37,4,
2,2,0,8,4,32,32,36,4,224,131
,196,4,91,216,32,152,2)!239
240 CALL LOAD(9768,36,248,6,
224,36,248,216,32,152,2,36,2
48,6,224,36,248,6,32,36,248,
136,32)!133
250 CALL LOAD(9790,36,248,36
,250,26,8,136,32,36,248,36,2
52,27,4,4,224,36,244,4,224,1
31,4)!013
260 CALL LOAD(9812,216,32,36
,248,156,2,6,224,36,248,216,
32,36,248,156,2,2,0,8,28,2,1
)!054
270 CALL LOAD(9834,37,20,2,2
,0,2,4,32,32,36,2,0,8,15,2,1
,244,0,2,2,0,13)!105
280 CALL LOAD(9856,4,32,32,3
2,5,128,6,2,22,251,2,0,7,4,4
,32,32,48,7,96,36,244)!204
290 CALL LOAD(9878,22,62,2,1
,0,3,152,33,36,254,131,117,1
9,3,6,1,22,250,4,91,200,32)!
180
300 CALL LOAD(9900,131,4,131
,4,19,49,136,32,131,4,131,74
,22,45,7,32,36,244,208,160,1
31,66)!038
310 CALL LOAD(9922,9,130,2,0
,8,32,2,1,39,22,4,32,32,44,4
,224,37,2,184,49,37,3)!195
320 CALL LOAD(9944,6,2,22,25
2,200,11,36,246,4,32,32,24,0
,38,2,0,2,226,193,96,37,2)!1
38
330 CALL LOAD(9966,2,2,0,10,
2,3,0,100,2,6,0,2,4,196,61,3
,6,160,37,94,5,128)!027
340 CALL LOAD(9988,192,194,6
,6,22,248,193,5,6,160,37,94,
194,224,36,246,4,91)!104
350 CALL LOAD(16376,79,78,32
,32,32,32,37,244)!042
360 CALL LOAD(16368,79,70,70
,32,32,32,38,14)!240
370 CALL LOAD(16360,67,72,69
,67,75,32,38,36)!002
380 CALL LOAD(16352,67,85,82
,83,79,82,37,122)!053
390 CALL LOAD(8194,39,22,63,
224):: CALL LINK("CURSOR")!1
43
    
```

* END *

T.F.

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Editor's Desk Continues. . .

party support and the availability of more hardware and software options. I firmly believe that if VAST did not change its orientation to include a broader base, the membership would soon be lost to other clubs in the area, and the remaining TI-only group of people would not have the "critical mass" to continue a viable organization.

I can't quite agree that "The clones can't do anything more than the TI can, they just do it faster". In fact, due to having more memory, speed and wider variety of peripherals, they can, in fact, do some things not feasible on a TI. I would also add that without spending quite a lot of \$\$ for extra hardware on a clone, the TI can do a number of things the clone just cannot do. I cannot say the same thing about some other machines though. Machines like the Atari ST and Amiga can do EVERYTHING the TI can do and much more. By the way, I happen to know what I am talking about too. I have a PC/AT and an Apollo Work Station on my desk at work, and an Amiga, two TI-99/4As and a 10 MIP Novix NBS-4000 development system in my computer room at home.

The point I want to make is that technology moves on with or without us. If our organization insists upon a fixation at a certain point in the technology evolution, then it must have a large enough group of members who feel satisfied with this objective to keep an active useful ongoing participation of members after others have moved on to newer things. This did not prove to be the case with the VAST organization. I think we have done the only thing we could do and retain a viable organization.

Rene' LeBlanc

December 21, 1987

Dear Mr. Brashear:

First of all, all members of the Vast User Group, would like to wish you and the Western New York 99'ers a Very Merry Christmas and a Happy and Prosperous New Year.

We also thank you for your interest in our Group, expressed in your open letter, recently left on our BBS.

Your letter appears to question our motives, our sincerity and even our honesty, however, and even appears to attack and accuse me personally. Why you chose this method of attempting to enhance the welfare and future of the TI-99/4A computer is beyond me, as such practices will only turn people off, especially in this part of these United States. I will therefore make an effort to reply, without drawing personalities into the discussion.

1. We all agree that the TI-99/4A is a very good computer and when it was produced, it was way ahead of it's time.
2. Most of us got computers because we were curious and because we saw a definite use for them. Some of us got into games, others had more use for business applications and some of us even dared fooling around with programming in Basic, Extended Basic, Assembly, P-Code and Forth.
3. Several years have gone by now, since the last of the TI-99/4A were manufactured and time along with further development and innovation in the computer

+++++

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