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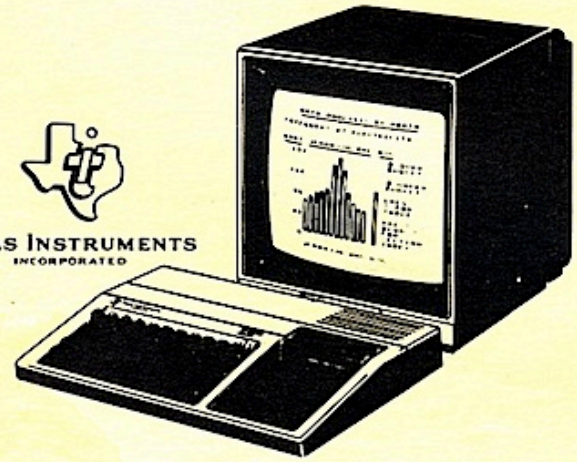

TEXAS INSTRUMENTS
INCORPORATED

PRICE: $2.00

U N O F F I C I A L 99/4(A)

VOL #1.
NUM #5. JULY-AUGUST 1983

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UNOFFICIAL 99/4(A)
Published by DeBeer Brasses
M. T. Leyton --- Editor
P.O. Box 651, Clute, Texas 77531

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UNOFFICIAL is published by-monthly at $10.00 per year. Individual copies are $2.00.

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Contributions to UNOFFICIAL are very much welcome. We like to print a variety of programs which will be helpful, fun, educational and mind puzzling for other UNOFFICIAL readers.

Programs submitted must be on tape only. Disk programs can be handled, but they take more time to get to. We do not have time to 'key in' programs that are submitted on paper. All programs must be accompanied by a detailed instruction guide, and an editorial commentary for all other information that you feel is necessary. The more written the better. All correspondence must be typed, or hand printed.

We do pay for quality submissions, based on several criteria. Remuneration is small at the moment, but will increase as circulation does. Those wishing remuneration must so state when making submissions.
For more detailed information on making submissions, please send a SASE to Submission Information, UNOFFICIAL 99/4(A), P.O. Box 651, Clute, Texas 77531.

Good luck !!!!!! ###

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EDITORIAL

It is the depths of winter as I write this, and when you read this editorial it will be the height of summer. Such is the lead time to get it all together.

Hopefully by now the TI-99/2 computer is out on the streets and selling for about $99.00 Attacking the low end of the computer market. Let me tell you how I see it.

Texas Instruments were caught flat footed with the rebate business and messed Christmas 1982; but why ?

TI was either dumping their entire stock of computers, or maneuvering the market to suit them. Did TI decide to dump the computer business because of the poor sales the 99/4 and 99/4A had reached at their original lofty prices, and once the price was reduced they saw a future in computers at a more realistic price ? This may well have been the case based on the track record that TI has.

Look at the watch business. TI jumped into the small wrist watch market after the initial movement of consumers into that market had happened. TI made money and moved out of the watch market when it saw a decline on its return on investment.

Look at the hand calculator market. It it well known that TI was not the first company to sell hand calculators. However TI did came out with a range of hand calculators but is now dropping its 58 and 59 models. Sales are poor and that money can be better spent in other areas that have a better return on investment.

That brings me to the theory that just maybe TI was looking at another poor return on investment because the price was not right, and decided to move onto greener pastures, but the rebate caught them. The failure just turned into a golden egg that TI hoped it would be in the beginning.

Now the other idea that TI could have been trying to maneuver the market to suit itself. This type of maneuver is fraught with risk all the way. The main problem is that the market may not respond the way you want and you loose your arm as wall as a leg. I very much doubt if TI would do this, but it is another possibility to think of.

TI is not in business to loose money for its stock holders and that is why I am thinking what will happen if the home computer market changes suddenly and catches TI to such an extent that they are unable to reply. Will TI move out of home computers and on to bigger and better things, leaving the TI home computer fanatic high and dry ? I doubt it.

I doubt it because TI does have some excellent computer products on the computer market, and because TI is an electronics company.

And now back to the TI 99/2 computer. The 99/2 is aimed at the low end of the computer market. The main rival to the 99/2 is the Timex Sinclair ZX81. Timex will be hard to catch, not only because of the vast numbers sold but mainly because of the grass roots type support the ZX81 has. However the ZX81 does and will not have the upward mobility that a 99/2 user will have. Also remember that the 99/2 user will be able -as we are told- to use his 99/2 programs on the 99/4A.

Basically the 99/2 is aimed at the person who is interested in going into the world of computers but has some reservations -one being money- and does not want to get bit. This computer fits the bill exactly, even down to having ASSEMBLY language built in. That fact is not nice to a 99/4A owner.

Texas Instruments is seeing a future in computers now that they have their price structure correct. A low end computer for about $99.00, a medium priced model for about $150.00, and ... Yes what about a higher grade computer from TI for the home market ? Do not worry it is coming. What it is and has is one of those well guarded secrets. You and I will have to bide our time.

A story to while away the time. One of the major decisions a TI P.C. owner must face is to buy or not to buy EXTENDED BASIC. I do not intend to go

into the pros and cons of that decision here, but to give you something to think about

A friend of mine has been in deep thought about buying an EX' BASIC module. The main problem is to go mail order or hunt about for a module locally. The first problem is that TI suffers badly from not having shops that carry the full range of TI and third party software. On the other hand if buy from a mail order place you are always buying blind; and that can be bad. The main problem about buying blind is that you are not able to try out the program to see if it is exactly what you want and need. We need more TI shops ! Anyway, back to the story. My friend decided to go into Houston and visit the local 'Toys R Us' shop and I went along for the ride. The range of TI products is impressive even though it is more expensive than mail order. He pulled the EX-BASIC tab and paid the price.

The trip home was spent in deep expectation and my friend was not disappointed one little bit. He has been deeply involved in his little blue EX-BASIC book and is playing on his TI till late at night.

Fun, excitement, enjoyment, and discovery is what a computer is all about and the TI fits the order exactly. I hope that the newness never wears off for me, and for you.

I enjoy the talks that my friend and i have about computing and the 99/4A. We cover many topics but hit the hardest two topics; education and thinking games. Education comes to the TI owner in the form of educational packages from various places, and do not forget the new Plato courses. What about the thinking games ? Keep your eyes open for the November-December issue of UNOFFICIAL. See how long it takes you to solve the puzzle.

I hope you enjoy what is written down in UNOFFICIAL and would encourage you to write in with any comments that you have.

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LETTERS

Dear UNOFFICIAL:

Please sign me up for a subscription of your UNOFFICIAL 99/4(A) magazine for I have not seen too much published for the TI computer and I am very interested in finding more.

R. Beachler
165 E 550 N
Bountiful, Utah 84010

Since there is a dearth of information on the TI P.C. UNOFFICIAL came into being to give a helping hand and a place to say what you think.

Mark.

Dear UNOFFICIAL:

Hoping you have quicker and better service than the "----" else I may cancel.

A. Asmundson
1021 Queen St.
Bellingham, Wash 28225

Since we are small I think we will be quick on our feet and fast to reply. If not let us know. Small is best.

Mark

Dear UNOFFICIAL:

Please forgive the informality. After reading your "UNOFFICIAL" newsletter I feel that we are on the same team !

Comments: (1) Enjoyed your frankness in comparing TI with others. It should have EXTENDED BASIC built in. (2) Have someone edit your copy for spelling, etc. Only a few goofs, but not suitable with such good thoughts.

Best of luck.

J. Ralph Otte
Glenoaks Park Villas
10971 Lucky Oak Street
Cupertino Ca, 95014

Spelling corrections are one of the boring jobs that has to be done. But it does give you an opportunity to review what has been said.

Mark.

Dear UNOFFICIAL:

please enter my RUSH subscription for one (1) year. Would you also send me my FREE copy of "UNOFFICIAL 99/4(A)" as soon as possible.

Thank you for your prompt attention and service.

Richard J. Phillips
135 High Street
Gardner Ma, 01440

It was RUSHed as quick as possible.

Mark.

Dear UNOFFICIAL:

In answer to your question about the dictionary -no. Direct Writer II does not support a dictionary. A good dictionary would require an excessive amount of disk space, and I think it would be impractical for this system.

You probably are not familiar with the abilities of Direct Writer II, since it won't be announced publicly until the January issue of 99'er is released. This new version has all the features that the original had, and the ability to underline, do superscript, subscript, double strike, and expanded, compressed, are all mixable, anywhere in the text. These features are used by typing single characters in the text with the assembly routine, the print routine does the rest. Also, your printer does not have to have the backspace function to do underlining with this improved version of DIRECT WRITER II !

We've also added a few conveniences to the program to make it smoother to operate. The price of the improved version is $66.00 This

includes a sixty page manual, full of information and examples.

Sorry we don't support a dictionary, but it does just about everything else. Good luck with your new venture, publishing the newsletter, I do agree with you, there is always room for another viewpoint, and us 99/4(A) users can always use another source of information.

Curtis Garcia
10202 Forum Park Dr #310
Houston Tx 77036

that I can not show you how the letter looks with all the different type of print; it is impressive.

Mark.

Dear UNOFFICIAL:

The Niles Public Library District is considering enlarging its periodical collection. Please send a sample issue of and subscription information for your magazine "UNOFFICIAL 99/4(A)."

Thank you in advance for your time and attention.

Cheryl L. Flinn
Children's department
6960 Oakton Street
Niles Il, 60648

Dear UNOFFICIAL:

Sign me up for a 1 year subscription. I have a TI-99/4A with 48K and disk drive, RS232 and modem etc. I am having trouble accessing the Source through my system (peripheral expansion bow with cards) Can you help with any information ?

R. C. Jacob
14008 Saginan
Burnham Ill 60633

Can any one help a fellow TI'er in need ? If you are unable to, ask your friends and fellow TI owners.

Mark

==========

COMPUTER APPRENTICES WORKSHOP

The Computer Apprentices Workshop always reminds me of the three wicked witches in Shakespeare's McBeth. I visualize hungry computer addicts sitting at their terminals 'brewing' up some new fancy program or a devilish program that simulates the start-up of your computer. I suppose the truth is much more simple and 'regular' than my idea.

However there must be quite a few programmers that have a 'wicked witch' about them since computer crime continues at quite an alarming rate. But since we all have to start somewhere, this column is as good a place to start as anywhere.

This issue I hope to carry on in the quest for further understanding of TI BASIC. The term 'I/O', or Input Output is the next step in our travels. The importance of I/O is great because most programs need help from you to get to an answer.

Maybe to best example is when you turn on your computer you can press any key and that brings up the menu screen. This screen has at least one question on it. If you have a module plugged in then you have a choice of '1' or '2'. The computer will wait for an answer. This answer could be one of three that you can give. Your options are '1'; '2'; and 'BYE'. The answer you give is

'tested' to see if it is a valid response. If your response is good then the computer will act on what you told it. On the other hand, if you entered the number '5' you will get no where fast.

This type of structure is exactly the same as you will be needing when writing programs with I/O. The one golden rule for I/O is "Is it idiot proof ?"

The 'idiot proof' question mainly pertains to Input. The Output question is covered by the saying "Garbage in, garbage out".

Let me cover the Input part of I/O first. In TI BASIC Input is very straight forward once you have learned the rules. Type this in ...

```
90 CALL CLEAR
100 PRINT "WHAT IS YOUR NAME
??"::
110 INPUT A$
120 INPUT "WHAT IS YOUR ADDR
ESS ??":B$
```

Line 100 prints the question "What is your name ??" on the bottom of your screen. Note how the cursor is two lines below the question. This is done by using two colons on the end of the print statement. This having the question off the bottom of the screen can be an effective tool in many question and answer sessions.

The next question, on line 120, is a combined question and input all in one. In this case the cursor will be waiting for the answer at the end of the question line.

There is no hard and fast rule to which way is the 'correct' way. The choice is up to you. What you should think of is :-

1. Is the program large enough to run out of memory. If that is the case then do not use the PRINT and INPUT method as it consumes memory.

2. What is the over all look of the screen ? Does the screen look 'cluttered' when you display several question on the screen ? Can you, with ease, read the questions ?

Now we have a little better understanding of the task at hand let us have another look at the program that you have just entered. The two variables that we are using, A$ & B$, are alphanumeric variables. That is what ever you type in as your answer is stored as characters. By looking at the program you will see what I mean; I hope.

```
WHAT IS YOUR NAME ??


JOE DOE
WHAT IS YOUR ADDRESS ??  111 S
HANNON ST.
```

What we have done is this :-

```
A$ = "JOE DOE"
B$ = "111 SHANNON ST."
```

Now this may not be exactly as you wanted to read in the address. Say you wanted the street in a different variable than the house number. You would have to use a method similar to this...

```
90 CALL CLEAR
100 PRINT "WHAT IS YOUR NAME
??":::
110 INPUT A$
120 INPUT "WHAT IS YOUR ADDR
ESS ?  TYPE IT IN WITH A COM
A BETWEEN THE NUMBER AND STR
EET NAME. ":B,C$
```

When the address question comes up on the screen enter in this manner...

```
111,SHANNON ST
```

Now we have ...

```
A$ = "JOE DOE"
B  = 111
```

```
C$ = "SHANNON ST"
```

It may or may not be obvious to you that now we have the two names assigned to alphanumeric variables while the house number has a numeric variable. What that means is that if I wanted to work with the house number I would treat the number as a number and not as a character string. This fact may not seem much in this small example, but in bigger and better programs this difference is much needed.

One of the major problems with Input is that you have to be able to handle the idiotic and stupid replies. Say you asked the same two questions as before and got this reply...

```
BLOOD DRACULA

106,TRANSILVANIA AVE
```

It is highly unlikely that Dracula is living at this address, but does your computer know that ? Assuming you have an average TI P.C., there is little you can do except telling "BLOOD" to stop playing on your computer.

The compromisation of computers is a challenge that most people can not refuse, and your program better be able to handle it. I do not mean the destruction of vandals but the innocent (sic) and childish pranks of programmers.

The other, and more lightly, problem that you will run into is the entry of wrong data. When ever there is a question there is a good chance that the wrong answer is entered, or that the person entering the answers changes his/her mind and wants to alter the answer. What do you do ?

Remember I said that your program had better be "idiot proof" ? Well you have to program in safety checks along the way. What do I mean by safety checks, well look at the same program that now has a safety check...

```
90 CALL CLEAR
100 PRINT "WHAT IS YOUR NAME
??":::
110 INPUT A$
120 INPUT "WHAT IS YOUR ADDR
ESS ?  TYPE IT IN WITH A COM
A BETWEEN THE NUMBER AND STR
EET NAME. ":B,C$
130 :::PRINT "ARE YOU SURE T
HAT YOU HAVE ENTERED THE COR
RECT DATA ???"
140 INPUT Q$
150 CALL CLEAR
160 IF 78=ASC(Q$) THEN 100
170 IF 89<>ASC(Q$) THEN 130
180  ... THE REST OF THE...
     ...     PROGRAM    ...
```

The checking of the input starts on line 130 with the checking question. If the answer is "NO", "N", or "NON" (for the French readers) line 160 will place the person doing the answering back at line 100. If you answer "YES", "Y", or "YEH" line 170 will allow you to carry on with the rest of the program.

Line 170 is somewhat confusing since I am using reverse logic. I know that does not sound very logical, but reverse logic can allow you to eliminate unnecessary lines of code in your program.

Remember that for every question there is three answers; yes, no, and a dumb answer. Line 160 eliminates the NO reply. Line 170, using reverse logic, covers the YES and stupid answer in one go. This is done by allowing all YES answers to "fall through" or carry on with the executable line, but forcing all other answers back to line 130. All other answers being anything not starting with the letter "Y" or "N".

If you do not fully understand reverse logic you could have done it this way...

```
130 :::PRINT "ARE YOU SURE T
HAT YOU HAVE ENTERED THE COR
RECT DATA ???"
140 INPUT Q$
150 CALL CLEAR
```

```
160 IF 78=ASC(Q$) THEN 100
170 IF 89=ASC(Q$) THEN 190
180 GOTO 130
190  ... THE REST OF THE...
     ...      PROGRAM     ...
```

In this case line 160 covers all the "NO" answers, and line 170 collects the "YES" answers. What "falls through" are the dumb replies that are recycled to line 130 for another try.

The reverse logic approach eliminated line 180 and thus allowed you more memory for the program.

Reverse logic is not for every one and can cause your head to spin if you do not know what you are doing. What I would suggest is for you to stick with the straight forward approach until you have enough skill and patience to branch out into reverse logic; and tread carefully when you do.

All this entering from the keyboard is all well and good but is it really necessary to keep on pressing the <ENTER> key all the time ? The use of the <ENTER> key is necessary when you are going to have answers that are more than one character long, but not so otherwise.

Say that the program we have been using has written instructions that state that you do not need to use the <ENTER> key all the time and that your reply will be entered straight from the keyboard -as is the case when you use the keyboard for the controls in many action games.

To eliminate the <ENTER> key we are going into the exciting world of the CALL KEY command. Let us look at an easy example before we continue so we know what we are talking about...

```
100 CALL KEY(5,INPUT,STATUS)
110 IF STATUS = 0 THEN 100
120 PRINT INPUT
130 PRINT CHR$(INPUT-64)
140 END
```

The CALL KEY command works on the principle that the program will stop executing and wait for you to enter something from the KEYboard. Even though it looks like nothing is happening the whole keyboard is being scanned for any input. If nothing is found the variable STATUS is given the value zero.

Line 110 tells the computer that is a zero is found go back and execute line 100 I.E. go back to the keyboard and have another look to see if anything has been entered. This is similar to a DO-LOOP but without the FOR- NEXT structure.

There are two other numeric values that STATUS could take upon itself, a plus one (+1) and a minus one (-1). The plus one (+1) is generated if a new key was pressed since the last performance of the CALL KEY. A utilization of this ability would be if you would continue a program only on the condition that you had not entered the same key the last time. The minus one (-1) is generated when the same key was pressed during the performance of a CALL KEY as was pressed during the previous performance. Utilizing this ability could be in the case of avoiding repetition.

No matter what the STATUS generated, the key to CALL KEY is that you do not have to press the ENTER key at all. This fact alone makes CALL KEY a very nice tool to have.

Have you ever noticed that usually the highest score, in playing a game, is obtained by using the keyboard. Yes joy sticks are good but are too slow when compared to the keyboard. This is because the computer can respond that much faster due to the fact that there is less distance from the keyboard to the CPU (Central Processing Unit) than there is from the end of a joy stick to the CPU.

In the CALL KEY command there are several types of 'keyboard'. What I mean is that there are several ways you can use the keyboard. In the short example I use the number '5'. This is my KEY-UNIT number. There are six KEY-UNIT numbers (0-5) and they all refer to a different keyboard. The different keyboards are useful, but numbers 3 and 5 will be the most commonly used. Number 3 serves the game creator, while number 5 covers the entry of letters.

In finishing I better use the same program that I have been and now modify it to use the CALL KEY command...

```
90 CALL CLEAR
100 PRINT "WHAT IS YOUR NAME
??":::
110 INPUT A$
120 INPUT "WHAT IS YOUR ADDR
ESS ?  TYPE IT IN WITH A COM
A BETWEEN THE NUMBER AND STR
EET NAME. ":B,C$
130 PRINT :::"ARE YOU SURE T
HAT YOU HAVE ENTERED THE COR
RECT DATA ???"
140 CALL KEY(0,IN,STATUS)
150 IF STATUS = 0 THEN 140
160 CALL CLEAR
170 IF 78=IN THEN 100
180 IF 89<>IN THEN 130
190  ... THE REST OF THE...
     ...      PROGRAM     ...
```

Using the CALL KEY command can make the program longer, but if you have no memory constraints then the use of the CALL KEY makes a program more interesting, fun to use and more importantly faster than using ENTER all the time.

Even though I tend to steer away from EX-BASIC I have had several letters asking about printing EX-BASIC version of programs I print. What follows is a modified EX-BASIC version of what I have been talking about above. The listing is...

```
100 DISPLAY AT(2,8)ERASE ALL
:"DATA ENTRY"
110 DISPLAY AT(5,2):"ENTER Y
OUR NAME"
120 DISPLAY AT(8,2):"STREET"
130 DISPLAY AT(9,2):"CITY"
140 DISPLAY AT(10,2):"STATE"
150 DISPLAY AT(11,2):"ZIP"
160 ACCEPT AT(5,18)BEEP SIZE
(16) VALIDATE(UALPHA):A$
170 ACCEPT AT(8,9)BEEP SIZE(
20):B$
180 ACCEPT AT(9,7)BEEP SIZE(
20) VALIDATE(UALPHA):C$
190 ACCEPT AT(10,8)BEEP SIZE
(2) VALIDATE(UALPHA):D$
200 ACCEPT AT(11,6)BEEP SIZE
(5) VALIDATE(DIGIT):E
210 DISPLAY AT(15,3):"IS ALL
OF THE ABOVE CORRECT (Y/N)"
220 ACCEPT AT(17,10)BEEP VAL
IDATE("YN"):Q$
230 IF 78=ASC(Q$) THEN 100
240 .... THE REST OF THE ...
     ....     PROGRAM ....
```

As you can see a vast difference from the simple program I started out with at the beginning.

The two major differences are the use of DISPLAY AT & ACCEPT AT. These two commands give me the ability to position what I want where I want, something I do not have in TI BASIC.

By using DISPLAY AT I 'build' my screen first. That is I display all the questions first (lines 100-150) and then come back and start down the list of questions one at a time. At each question I check for the size and content of each answer -except for 'street'. When I have all the answers I check to see if what was entered was correct (line 210-230). Note I check for the answer being a 'Y' or 'N' in the ACCEPT AT on line 220. I know that a 'Y' or a 'N' was entered so that makes the job of deciding what to do very easy, as you can see in line 230. If I have a 'N' then it is back to the beginning, while a 'Y' will execute the rest of the program.

The length of the program written in TI BASIC is 413 bytes long and covers 19 lines. The EX-BASIC program is 466 bytes long and covers 24 lines. You can see that the EX-BASIC program is longer and occupies more memory than the TI BASIC program. EX-BASIC is worth it in every sense of the word.

The Input side of I/O is the most challenging, when dealing with an interactive computer, of the two. Input must be planned and well thought through so as to be easy to use and have no two-sided questions.

The Output side of I/O will be covered in the next issue of UNOFFICIAL.

###

SEARCHING FOR A BOOK?

Have you ever had the problem of remembering that you read an article that you thought was interesting and something months later makes you think about that article. Of course you can not remember the name of the magazine that the article was in let alone find the magazine. Then again you are not totally sure that it was in a magazine. It may have been that Si-Fi book you borrowed from the library. No matter where the article came from you are stuck; no book, magazine or article.

what can you do about the many things you read, whether it be paper, trade journal, scientific paper, or books. The best thing you can do is put your TI P.C. to work and file what you read away. Sounds nice and easy, and it really is. All you need is the basic TI P.C. and a tape recorder -for magnetic storage.

The problem I chose to tackle is the person who has a large library. In this library are books ranging from kids books through cooking via handyman, serious, and religious books. So there is quite a range of topics I have to cover.

Maybe the first hurdle I have to face is what and how to store. I have decided to store the authors name, the title of the book, and some appropriate comments on the book.

At this time I must lay down the biggest rule that governs the working of this program. NOTE in all three categories (title, author, & comments) there will be NO commas or any punctuation of any kind.

Now I have said what I want I need a way of storing all this data before I even think of searching through it. The way I have devised is a program to make a file that has three fields. These three fields correspond to the data I want to store, namely title, author and comments.

The listing follows and then the comments about the program...

```
90 REM   FILE MAKER.
100 DIM Q$(100), A$(100, B$(
100)
110 CALL CLEAR
120 PRINT "          THE MENU
"
130 PRINT "          ========
":
140 PRINT "   NO.        COMM
AND"
150 PRINT
160 PRINT "    1      CREATE A
FILE"
170 PRINT "    2      LOAD OL
D FILE"
180 PRINT "    3      ADD TO
OLD FILE"
190 PRINT "    4      DELETE
FROM OLD"
200 PRINT "           FILE"
210 PRINT "    5      SAVE FI
LE"
220 PRINT "    6      EXIT PR
OGRAM":::::
230 INPUT "<ENTER> THE NUMBE
R YOU WANT ":D
240 CALL CLEAR
250 ON D GOTO 720,260,370,41
0,900,980
260 PRINT "TO GET YOUR OLD D
ATA FILE,  FOLLOW INSTRUCTIO
NS"
270 A=0
280 OPEN #11:"CS1",SEQUENTIA
L, INTERNAL,INPUT,FIXED
290 FOR I=1 TO 100
300 INPUT #11:Q$(I),A$(I),B$
(I)
310 CALL SOUND(200,-7,3)
320 A=A+1
330 IF Q$(I)="END" THEN 350
340 NEXT I
350 CLOSE #11
360 GOTO 110
370 N=A
380 PRINT "PLEASE ENTER THE
BOOK TITLE, AUTHOR, AND ANY
COMMENTS    WHEN ASKED"
390 PRINT "THIS DATA IS BEIN
G ADDED TO THE BOTTOM OF THE
FILE"::
```

```
400 GOTO 760
410 PRINT:"            EDIT M
ENU"
420 PRINT "            ======
==="
430 PRINT
440 PRINT "    NO.          C
OMMAND"
450 PRINT
460 PRINT "     1.        LIS
T DATA"
470 PRINT "     2.        DEL
ETE DATA"
480 PRINT "     3.        RET
URN TO MENU"::::
490 INPUT "<ENTER> THE NUMBE
R OF YOUR CHOICE ":E
500 CALL CLEAR
510 ON E GOTO 520,580,100
520 FOR I=1 TO A-1
530 PRINT I:Q$(I):A$(I):B$(I
)
540 NEXT I
550 INPUT "PRESS <ENTER> TO
CONTINUE ":F$
560 CALL CLEAR
570 GOTO 410
580 INPUT "<ENTER> THE LOCAT
ION OF     THE DATA YOU WISH
DELETED ":G
590 PRINT
600 PRINT Q$(G):A$(G):B$(G)
610 PRINT "YOU WANT TO DELET
E THIS,    ...(Y/N)"
620 INPUT W$
630 CALL CLEAR
640 IF W$="Y" THEN 650 ELSE
480
650 FOR K=G TO 99
660 Q$(K)=Q$(K+1)
670 A$(K)=A$(K+1)
680 B$(K)=B$(K+1)
690 NEXT K
700 A=A-1
710 GOTO 410
720 CALL CLEAR
730 PRINT "THIS SECTION ALLO
WS YOU TO  INPUT DATA INTO A
FILE"
740 PRINT
750 N=1
760 FOR I=N TO 100
770 PRINT "<ENTER> THE BOOKS
TITLE "::
780 INPUT Q$(I)
790 CALL SOUND(100,-1,2)
800 PRINT:: "<ENTER> THE AUT
HOR "
810 INPUT A$(I)
820 CALL SOUND(100,-2,2)
830 PRINT:: "<ENTER> YOUR CO
MMENTS "
840 INPUT B$(I)
850 CALL SOUND(100,-3,2)
860 CALL SOUND
870 A=I
880 IF Q$(I)="END" THEN 110
890 NEXT I
900 OPEN #10:"CS1",SEQUENTIA
L, INTERNAL,OUTPUT,FIXED
910 FOR J=1 TO 100
920 PRINT $10:Q$(J),A$(J),B$
(J)
930 CALL SOUND(100,-5,2)
940 IF Q$(J)="END" THEN 960
950 NEXT J
960 CLOSE #10
970 GOTO 110
980 CALL CLEAR
990 PRINT "   END OF SESSION
":::::
1000 END
```

Quite a simple program really. I am sure that not everyone thinks so, but if you study it carefully you will se that it is.

To create a file you have six options :-

1 create a file
2 load old file
3 add to old file
4 delete from old file
5 save file
6 exit program

If you are starting from scratch then you will use option #1. You will be told that the data must be entered in when asked, and remember DO NOT USE PUNCTUATION OF ANY KIND !!!! The reason why will be explained later.

You enter the authors name, book title, and comments till you are blue in the face and want to stop. All you need to do to get out of entering data is type in the word "END" in when asked for author, title and comments. To put it another way, entering the word "END" in each of the three categories will

return you to the master menu screen.

If you have an old data file that you want to update simply enter #2. The program will help you to load in the old file so you can add items to it. All the data you add to your file is being added to the bottom of what you already have.

I better state, at this time, that the data is stored in the order that you enter it in. I decided to put it this way because in the searching routine any order does not help one bit in speed. I chose to search each entry because you can not enter three related elements in, at one go, and come out with the elements still related and in a sorted array. Let me give you an example.

```
Q$(1) = FUDD J T E
A$(1) = HIGH TIMES
B$(1) = COWBOY ARIZONA SALOON

Q$(2) = JAMES TOM
A$(2) = AMAZON IN COLOUR
B$(2) = PHOTO AMAZON SOUTH AMERICA

Q$(3) = HILLER JACKIE
A$(3) = WOMEN IN POLITICS
B$(3) = POLITICS WOMEN POWER LAW
        PORK BARREL
```

These are three books I have and I want to enter in. Now if I enter them in in alphabetical order how do I do it. I could do it by author, or title, but not both. If I enter the books alphabetically by title then authors will be all over the place and the comments will be in a mess as they are any way. See the problem ?

To delete (#4) an entry you must find its location and delete by entering in the location number.

You should always save your file (#5) at the end of a session or else you will loose all the work you just did.

Exiting from a program (#6) does allow you to exit the program. This is the only (proper) way out of the program.

The following listing is the program that uses the file you have just made. The file is loaded into this program and and then the searching begins.

```
100 REM  A PROGRAM FOR SEARC
HING FOR A BOOK IN A FILE.
110 REM  YOU CAN SEARCH BY T
ITLE, AUTHOR, OR COMMENTS TH
AT YOU HAVE ENTERED
120 REM  BY M T LEYTON
130 DIM X$(100),Y$(100),Z$(1
00),L$(100)
140 DIM V$(10)
150 CALL CLEAR
160 PRINT "    TO LOAD DATA,
FOLLOW           DIRECTIONS
."
170 Y=0
180 OPEN #10:"CS1",SEQUENTIA
L,INTERNAL,INPUT,FIXED
190 FOR I=1 TO 100
200 INPUT #10:X$(I),Y$(I),Z$
(I)
210 IF X$="END" THEN 240
220 Y=Y+1
230 NEXT I
240 CLOSE #10
250 CALL CLEAR
260 PRINT "     METHOD OF SE
ARCHING"::
270 PRINT "  NO.         METH
OD":
280 PRINT "   1        BY TIT
LE"
290 PRINT "   2        BY AUT
HOR"
300 PRINT "   3        BY COM
MENTS":::
310 PRINT "<ENTER> YOUR CHOI
CE":
320 INPUT H
330 ON H GOTO 340,380,420
340 FOR I=1 TO 100
350 L$(I)=X$(I)
360 NEXT I
370 GOTO 450
380 FOR I=1 TO 100
390 L$(I)=Y$(I)
400 NEXT I
410 GOTO 450
420 FOR I=1 TO 100
430 L$(I)=Z$(I)
440 NEXT I
450 CALL CLEAR
```

```
460 FOR I=1 TO 10
470 V$(I)=""
480 NEXT I
490 PRINT "        SEARCH PRO
GRAM"
500 PRINT "        ==========
====="
510 PRINT: "<ENTER> THE DESC
RIPTION,    NO COMMAS"::
520 INPUT W$
530 P=1
540 FOR J=1 TO 22
550 IF SEG$(W$,J,1)=" " THEN
560 ELSE 580
560 P=P+1
570 GOTO 600
580 IF SEG$(W$,J,1)<>" " THE
N 590 ELSE 600
590 V$(P)=V$(P)&SEG$(W$,J,1)
600 NEXT J
610 PRINT:: "THERE ARE ";P;"
WORDS FOR SEARCH COMMAND"
620 REM
630 FOR I=1 TO 100
640 IF L$(I)="END" THEN 750
650 FOR Q=1 TO P
660 FOR R=1 TO LEN(L$(I))
670 IF SEG$(L$(I),R,LEN(V$(Q
)))=V$(Q) THEN 700
680 NEXT R
690 GOTO 740
700 NEXT Q
710 PRINT : "XXX":"TITLE :";
X$(I)
720 PRINT "AUTHOR :";Y$(I)
730 PRINT "COMMENTS :";Z$(I)
740 NEXT I
750 PRINT::: "END OF SEARCH
ROUTINE. DO YOU WANT ANOTHER
SEARCH ?  (Y/N) ":
760 INPUT D$
770 IF D$=CHR$(78) THEN 810
780 PRINT: "DO YOU WANT TO U
SE THE SAME SEARCH METHOD (Y
/N) ":
790 INPUT E$
800 IF E$=CHR$(78) THEN 250 E
LSE 450
810 END
```

This program allows you to search by one, and one only, of the three categories -author, title, or comments. Once you have chose the category you want the question of what to search by crops up. Say you think the author is Hays, but you are not too sure. You could enter it in and see what happens. But it is better to try something you are almost positive on. Say you think the author is Hays and the book was on pictures of the Amazon river. Maybe the author is wrong but what the book is about is right. Well you would use the comments method of searching and enter :-

PHOTO PICTURES AMAZON RIVER BIRDS

as the "Words For Search Command".

The program will search through all your book comments and print on the screen all books that have one or more of the words you have asked to search by. In this example the book in question will be found by a combination of PHOTO and AMAZON.

The program can handle up to ten search words, but the more words to search by the slower the program becomes. Also the number of entries to search through affects the time. This is not a fast program, but it is through and very exact.

For the program to be exact you need rules and that is why no punctuation is allowed. When searching you can not be expected to know if the word has a period after it or not, and that will be the difference between finding and not finding a book.

The length of one hundred spaces available is purely at your own discretion as is the joining of these two programs together; it is possible, but not for me.

The heart of this program lies on lines 630-690. If you can understand the logic behind them then you are a decent programmer and ought to be able to improve on my program.

That is it for this time, I do not think you will be disappointed with this program.

###

PRESS AND PAPER REVIEW

This section on press and paper reviews is one of the fun sections that I have. It gives me a chance to look about me and see what is happening. To often you can go blank when writing and you need a fresh charge of ideas. The best place to go for ideas is the computer magazines. There is always someone writing an article that you hate, like, or you turn green over.

Of late the two biggest items in the news is 1) the TI transformer, & 2) the new CC-40 and 99/2 computers

The transformer news came out about late February and is about the chance of getting a nasty shock from touching the transformer. TI even ran advertisements letting the people know what is happening and that adaptors are on the way to TI owners. TI states that no accidents have happened, and I am sure they do not want any. If you know of a friend who has a TI P.C. make sure that they get an adaptor soon. If you are not sure that TI has your name and address call 800-858-4565 or 800-858-1802.

The second 'big news' is the new CC-40 and the 99/2. By now you may well be sick and tired of hearing about these two computers, so I am not going to dwell on their relative merits but on the fact that Texas Instruments is more active in its advertising of the CC-40 than for the 99/2.

The first advertisement for the CC-40 came out in February. The CC-40 is geared to the business man/woman who needs answers fast and is used to using computers. This area of small business computers has mainly been covered by Sharp and Radio Shack. Lately Hewett Packerd brought out a small business computer at about a $1000.00 Now TI has joined the battle and has entered at a very competitive price. Expect to see more ads for the CC-40 in the future.

I received a letter from Timothy Ford of Plymouth, MI and he included some press cuttings. The first one was from the April issue of Popular Computing. The cutting was of an advertisement that read "Computer Books for Beginners" from ARCsoft Publishers. For the TI there were three books by Len Turner. I have not seen or read any of these books but the ad stated that the books are readily available from your local book shop. Of the three I am most wary about the one titled "101 Programming Hints & Tricks for the Texas Instruments TI-99/4A Home Computer" That title is too similar to all the other 101 programming hints and tips books. For example the ad has a "101 Timex 1000/Sinclair ZX-81 Programming Tips & Tricks" book available. What ever you buy, or order, make sure it is exactly what you want.

The other cutting is from the April issue of 'Games'. Of course you must remember that the magazine is for games people. Games magazine lets you know about the new TI-99/2 and the fact that there are some game software being produced. However Game states that if you are into games you had better stay with machines that are most lightly to develop good game libraries; IE the new Atari, Mattell, and the Spectra.

Let me tell you the story first. Mr. Elmar J. Fudd is a third generation Mexican American who can speak three languages fluently. He has a good job with which he is very happy. Elmar is married with two kids and basically is doing fine in all he does. You could say Elmar is a fairly typical person.

A week ago Elmar bought a Texas Instruments 99/4A computer. When he got the computer home it took Elmar exactly 15 minutes to unpack the computer and all the literature that comes with it. A further hour passed as Elmar read through the mass of words

that he found. Finally he connected the computer up to his B/W TV and turned it on. As Elmar, wife and two children stood there looking at the screen no one knew what to do. Fifteen minutes later Elmar's quick reading wife had it all figured out; press any key. It took the family another ten minutes to get to the BASIC ready screen.

What the Fudd family found was that it takes time learning to find your way about a computer system. In this families case it took twenty five minutes to get to the BASIC ready screen since turning the computer on.

Now how long would it take you to find your way about The Source or Compuserve ?

In the March and April (1983) issues of Computers & Electronics is a excellent two part article called The Computer Network Maze, by Stan Veit. If you are thinking about Compuserve, The Source, or any other similar service read this article first. Why this article ? There is so little written about these two computer services that it is hard to know if it is what you are after just by reading what they send to you through the mail.

If you white or phone Compuserve or The Sourse for some information on what they have to offer and their price structure, you do not get back very much.

The Source will send you literature containing all the items you can access. You can look at Advanced Applications & Programs, through games to Metals and Wine. Compuserve is similar in the literature you would receive.

But no one tells you how to find your way about the service of your choice. That is where The Computer Network Maze enters. Here is an article that shows you the type of commands you will need to do what you really want. You have several excellent diagrams that show you what you can do and where you can go. Without these diagrams the article would be a hard to fully understand.

Stan Veit comments on Dow Jones News/Retrieval Service. The only comment I would add about the Dow Jones service is that they do update regularly and the 'old' data is removed. This continual updating can be annoying if you need stories and articles several months old. Also covered are BRS by Night and Lockheed Dialog Information Service.

That is about it for the papers and the popular computing press. If you see anything of interest for the TI family of computers, please send it in. One of the best ways of learning is from each other.

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REVIEWS AND VIEWS

So you are tired of reading what I think of the modules that you can buy for the TI P.C. Well I have some reviews for products by those who know; the writers and sellers of these programs. Now I know it is hard to be modest about your own program, but who else knows a program better than the writer.

The following comes from Maple Leaf Micro Ware and is written by Larry Sabo.

"The following games can be ordered by sending a cheque, money

order or Mastercard details and signature, to:

Maple Leaf Micro Ware
P. O. Box 13141
KANATA, Ontario
Canada K2K 1X3

"Programs are shipped by First Class mail, postage paid, within 48 hours of receipt of the order. All are on tape only.

"SKY-DIVER ($19.95 U.S./$24.95 Cdn; EXT-BASIC)

"This game is as realistic a simulation of the real thing as you will find. Having made a number of jumps, I can tell you that all that is missing is the bone-shattering "thud!" you experience when you hit the ground after floating like a leaf, free as a bird. To make it complete, just fall off your chair when the game indicates touch down.

"The game, written in Extended Basic, is a parachuting accuracy competition for up to four players. Each player, in turn, controls the altitude and position of the jump plane, optionally dropping a streamer to check how the wind will effect the descent path, jumps, free-falls at an accelerating rate, pulls the rip-cord and glides himself toward the centre of the bull's eye target. A direct hit earns 100 points, while one point is deducted for every foot short. The first player to amass 500 points wins the game.

"The player can rotate clockwise or counterclockwise while free-falling, to home in on the target. Pressing "P" causes the main chute to open, or your blood to run cold with the message (Beep! Beep! Beep!) "Chute failed ! Press 'R' for Reserve." At 125 mph, you had better not dally or be too low! Just as with a real chute, pulling the right toggle (pressing the "0" key) causes you to rotate clockwise, pulling on the left one (pressing "1") counterclockwise, and pulling both simultaneously causes you to break forward speed but increase your rate of descent. Touching down with too high a rate of descent could result in a broken leg, or worse!

"As a player gathers more points, the wind picks up, making precision more difficult for the leader. movement over the ground is affected by the direction and speed of the wind, in a very realistic manner. When I play the game, I experience the same sense of urgency regarding which direction to head in and whether to break.

"Definitely an exciting game!

HANG-GLIDER PILOT ($19.95 U.S. / $24.95 Cdn; EXT-BASIC)

"When ten sky-divers drowned in Lake Erie, my buddy wrenched his leg on a hard landing and more of our friends started landing in trees and power lines, I decided it was time for a safer sport -- soaring. I love flying, so I wrote this program to share the experience, without the cost.

"Hang-Glider Pilot is a very realistic simulation/game for up to four players. The object of the game is to leap from a wind swept ridge and sore for the longest distance and time before returning to a safe, precision landing. Points are awarded for distance and time flown, but deducted for landing short of the designated landing area.

"Lift is experienced on the windward slopes in morning sea breezes, and sink is experienced on the leeward slopes. During mid-day, the breezes subside but thermals (i.e. invisible columns of rising worm air) develop over rocky fields. Air that rises in thermals, is replaced by air that has cooled aloft and sinks over lakes and forests. Fortunately, a circling eagle tips you off to the location of developing thermals. As the day progresses, the thermals build and form small clouds, which eventually become large clouds. After noon, the progress reverses itself. Your challenge, is to make best use of the ridge lift and thermals, to cover as much distance as possible and have enough altitude left to glide to the landing area after all lift has subsided.

"Instructions for flying and landing are clear and complete. Flying, stalling and landing behavior are all very realistic. The graphics are superb, I'm told. I get the same "Ahhh! What do I do now ?" feeling flying this game as I did flying

gliders, as altitude slips away and trees, lakes and hills confront me. Fortunately, a calm air flight-trained mode is incorporated, with provision for less stringent landing speed limits. Even so, you will find this game a challenge!

"just add your fan for the wind-in-the-face effect.

DEVIL CRAZE ($17.95 U.S. / $23.50 Cdn; EXT-BASIC)

(This game) "is a simple recognition-response game in which all you have to do is press a key, or fire button, with with your left or right hand, depending upon a colour pattern flashed up on the screen. The pattern consists of two rectangular colour panels on the left, two on the right and one in the centre.

"If the center panel is the same colour as one on the right press the right key/button, otherwise it will match a panel on the left, in which case press the left key/button. However, if four grinning crazy red devils flash on the screen, do just the opposite! But, watch out for the purple imposter devils -- they have to be ignored.

"The faster you respond, the higher the bonus for getting that screen right. The higher your score, the less time you have to respond and more frequently the devils appear. If you don't respond in time, or press the wrong key/button, you lose points and a black devil is added to the bottom of the screen. Get five such bad guys smirking up at you, and its all over Jack!

(Colour TV or monitor is best. Mark)

As I stated above, these comments come from Maple Leaf Micro Ware in Canada. If you buy any of these games, let these good people know where you read about the games. Maple Leaf needs your support as there are not too many TI games to be found.

Next issue will cover games from the USA, happy games till then.

###

MINI-MEMORY

This article is copied from "The Sprite" (Vol.1 No.3 & 4) a monthly newsletter of The 9900 User's Group, P.O. Box K, Moorestown, N.J. 08057 and is written by M. Baker.

You take it home, unpack it and scan the 83 page manual that comes with the Command Module and discover a new world for your TI-99. There is also a 20 page on the line by line Assembler which, of course, is one if not the big reason for having bought the Mini-Memory. The Mini-Memory adds 4K bytes of RAM to your console. This is CPU RAM which means that it is fast access compared to VDP RAM. It has a built in +3V battery to preserve whatever you put there. Even if the Command Module is sitting in you desk drawer. just be careful to turn your computer off when inserting or removing the module. There is also 4K of ROM and 6K of GROM resident in the module.

Now that you've got a feel for the manual you plug in your new Command Module, pressing any key, and your new title page appears. It shows you have EASY BUG and MINI-MEMORY as well as TI BASIC as options. Sorry, no bells and whistles.

If an error prompt appears with

PROGRAM NOT FOUND then you must reload using the line-by-line Assembler cassette. To go from one main menu item to another you must use Function Quit. At the main menu select EASY BUG. At this point a very extensive menu is displayed. From here we can load an assembly language cassette, save assembled programs, and inspect any location we wish. This part of the Mini-Memory can keep you busy for hours. Be careful if you modify RAM since some locations are reserved for CPU/VDP workspace.

The LINES program and the Line-By-Line Assembler are loaded concurrently. Simply type in L and press ENTER while in EASY BUG. Follow all cassette load instructions. Upon a good load use Function Quit and re-select Mini-Memory. At the prompt for PROGRAM NAME enter LINES and press ENTER. Sit back and watch a colorful demonstration for as long as you wish.

You can have fun now while using TI BASIC. Returning to the main menu select TI BASIC. Well, everything looks the same, but you have a few new commands at your disposal. You can now PEEK and POKE to VDP RAM using PEEKV and POKEV. You may PEEK into CPU RAM but not POKE while in TI BASIC. CALL LOAD discussed later, is what we can use to "POKE" into CPU RAM. An unadvertised bonus is the use of the EDIT mode. You may now edit as can be done in EXTENDED BASIC. You simply type in the address you wish to edit and depress an up/down arrow key and press FCTN. Voila! You're in EDIT mode.

You can also store you TI BASIC programs to Mini-Memory in less time than it took me to type in this sentence. Just enter SAVE MINIMEM. To reload a program enter OLD MINIMEM. Just like a cassette but faster than a speeding bullet. There is more than enough room for most BASIC applications. Another handy subprogram is the CALL CHARPAT subprogram. This will return a HEX,16 character pattern into a string variable. No more having to sit with paper and pencil to determine the pattern for any of the valid ASCII character codes 32 through 95 (through 127 on the 99/4A).

Three other subprograms are available in TI BASIC for our use when we wish to work with assembly programs. One is CALL INIT. This subroutine initializes and reformats the CPU RAM for assembly language subroutines, checks to see if the Expansion Box is connected and turned on, and erases all programs and data from the Mini-Memory.

The CALL LOAD subprogram actually loads the assembly program when we are in TI BASIC. We may also load individual bytes of data with this command. This is essentially a POKE command for the CPU RAM. "Peeking" and "Poking" to non-existing addresses may engage warp drive and deposit your program in the neutral zone. Be forewarned. Unauthorized entries gives the computer the authority to give unauthorized results.

In the next (exciting !!! Mark) installment we will discuss the Line-By-Line Assembler which allows us to write, store, link to and run assembly language programs all with only a cassette recorder and the basic computer console. No need yet for an Expansion Box, Expansion Memory, or a Disk Drive. Sigh! These are the items you would need if you decide to purchase the complete EDITOR/ASSEMBLER package offered by TI.

By M. Baker

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UNOFFICIAL 99/4(A)

BACK ISSUES !!!

Copies of back issues are not available at the moment. The only issue that there are a few issues is the May-June issue. From now on more than enough copies will be printed not only to cover all subscriptions but also for back issues.

Back issues cost $3.50 and for those outside North America please add and extra $1.00 (U.S.). That price does include postage.

++

QUICKIES

Back to the Quickies and in style. EX-BASIC holds a certain amount of fascination that I hope you will see in these QUickies.

QUICKIE #16

This Quickie is one of those odd items that come up every now and again. In reality a computer can not perform multiplication as you or I do it. A computer multiplies by adding the given number the correct number of times. That is:-

```
3 * 5 = 3+3+3+3+3 = 15
```

Simulating this on a computer is kind of strange but here is a program that does that; simulate a computer.

```
100 CALL CLEAR
110 A=13::B=27::C=0
120 C=C+B
130 A=A-1
140 IF NOT(A=0) THEN GOTO 120
150 PRINT C
160 END
```

The program is in EX-BASIC and multiplies 13 by 27. Line 140 is the heart of the program and uses the Boolean function NOT. Boolean logic is not very clear at time, but I hope you can follow the program.

Yes you can write this program in TI BASIC but it looses its flavor.

QUICKIE #17

This program is submitted by Jim Sleeth, P O Box 19503, San Diego, CA 92119. The program is a quick drill program for addition and subtraction. A short, interesting, and quick program. Written in TI BASIC

```
100 REM JIM SLEETH P. O. BOX
19503 SAN DIEGO CA 92119
190 CALL CLEAR
200 CALL SCREEN(16)
210 RANDOMIZE
220 N=10
230 P=0
240 W=0
250 A=INT(N*RND)
260 B=INT(N*RND)
270 P=P+1
280 IF B<=A THEN 310
290 C=A
300 B=A
310 PRINT
320 PRINT "   ";A
330 IF P/2=INT(P/2) THEN 370
340 PRINT " + ";B
350 R=A+B
360 GOTO 390
370 PRINT " - ";B
380 R=A-B
390 PRINT "------"
400 INPUT G
410 IF G=R THEN 490
420 W=W+1
430 IF W>1 THEN 460
440 PRINT "WRONG, TRY AGAIN"
450 GOTO 310
460 PRINT "YOU MISSED THAT O
NE TWICE"
470 PRINT "THE CORRECT ANSWE
R IS ";R
480 GOTO 500
490 PRINT "CORRECT !!"
500 PRINT "HERE'S ANOTHER"
510 GOTO 240
520 END
```

Try it and see just how easy it is to make a program have brains enough to give you a mixture of addition and subtraction.

QUICKIE #18

This Quickie is for the kid in your house who is learning to spell. You will need EX-BASIC and the Speech Synthesizer. As you may guess the program covers the whole alphabet by showing on the screen:-

```
A IS FOR APPLE
=
```

Which is accompanied by the Speech Synthesizer saying "A is for" "A", "P", "P", "L", "E". Note that the word "Apple" is spelled out for you. This spelling of the word is the same for all words not found in the vocabulary of the Speech Synthesizer

Try this program, and I better point out I could not stop the program once it had started.

```
100 DIM A(26)
110 CALL CLEAR
120 FOR I=1 TO 26
130 READ A$(I)
140 NEXT I
150 FOR I=1 TO 26
160 DISPLAY AT(10,5)BEEP ERA
SE ALL:A$(I)
170 DISPLAY AT(11,5):"="
180 CALL SAY(A$(I))
190 NEXT I
200 DATA "A IS FOR APPLE"
210 DATA "B IS FOR BUNNY"
220 DATA "C IS FOR CAT"
230 DATA "D IS FOR DOG"
240 DATA "E IS FOR EGG"
250 DATA "F IS FOR FISH"
260 DATA "G IS FOR GARDEN"
270 DATA "H IS FOR HAT"
280 DATA "I IS FOR INK"
290 DATA "J IS FOR JACK"
300 DATA "K IS FOR KITE"
310 DATA "L IS FOR LEMON"
320 DATA "M IS FOR MASK"
330 DATA "N IS FOR NUT"
340 DATA "O IS FOR ORANGE"
350 DATA "P IS FOR PINK"
360 DATA "Q IS FOR QUEEN"
370 DATA "R IS FOR RICE"
380 DATA "S IS FOR SILLY"
390 DATA "T IS FOR TALL"
400 DATA "U IS FOR UNDER"
410 DATA "V IS FOR VIEW
420 DATA "W IS FOR WIND"
430 DATA "X IS FOR X RAY"
440 DATA "Y IS FOR YOU"
450 DATA "Z IS FOR ZEBRA"
```

As you can see most of the program is data, but data is what you need.

QUICKIE #19

The primary colors are red, yellow and blue. The secondary colors are orange, purple and green. Very elementary but interesting if you do not know what they are. This program shows you the primary colors and tells you about the secondary colors (or colours).

```
100 CALL CLEAR
110 DISPLAY AT(5,6):"PRIMARY
COLORS"
120 DISPLAY AT(6,6):"-------
-------"
130 DISPLAY AT(9,10):"RED"
140 DISPLAY AT(10,10):"YELLO
W"
150 DISPLAY AT(11,10):"BLUE"
160 CALL SCREEN(9)
170 CALL SAY("THE COLOR RED"
)
180 FOR I=1 TO 400::NEXT I
190 CALL SCREEN(11)
200 CALL SAY("THE COLOR YELL
OW")
```

```
210 FOR I=1 TO 400::NEXT I
220 CALL SCREEN(5)
230 CALL SAY("THE COLOR BLUE
")
240 FOR I=1 TO 400::NEXT I
245 CALL SCREEN(8)
250 DISPLAY AT(17,5):"RED &
BLUE = PURPLE"
260 DISPLAY AT(18,5):"RED &
& BLUE = GREEN"
270 DISPLAY AT(19,5):"YELLOW
& BLUE = GREEN"
280 FOR I=1 TO 800::NEXT I
290 END
```

###

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IN CLOSING...

This is the second issue that UNOFFICIAL has gone to the 'magazine' style design. This can be done because the number of subscribers has grown enough to make it all possible. However UNOFFICIAL can not sit back on its laurels. Growth is important since it is closely related to the amount of communication that we are doing. And talking about communicating how do you feel about UNOFFICIAL 99/4(A) ?? Write a few notes about what you have read and see if you could have done better. But more importantly is the fact that UNOFFICIAL is interested in anyone who has a TI computer and can write.

If you have bought a game, module, or translated a program, you have a review. The only problem is that you have not written it down and sent it in to UNOFFICIAL for printing. Now if you have bought an Expansion Box, Mini-Memory, or 32K of extra memory, you have some comments about the hardware that you really ought to tell others about; even if it is only a warning.

All writing takes is to put a sheet of paper on the table in front of you. Get a pen out and push it across the paper. Very simple. Now do not worry about length or the quality of your writing, those minor problems can be ironed out. What I am interested in is your ideas, comments, and reviews. If we all help each other we will grow stronger and closer to each other. UNOFFICIAL is only a medium of ideas and I am interested in hearing your ideas.

Do this for UNOFFICIAL. Sit down with your computer going and make a list of all you have connected to your TI P.C. Then write your likes and dislikes about each item on the list. Then do the same for all your programs, modules, and disks. Now send what you have written in. It is that easy !!!

What do you do once you have finished reading your copy of UNOFFICIAL ? Do you lend it to someone else or hide it away ? Here at UNOFFICIAL we keep one copy of everything we send out in our files so we have exactly what you have. We even have one of the poorly printed March-April issues. Yes they were sorry and that is why we went to somebody else. The cost was (and is) a little more but I think it is worth it.

Back to the point I am trying to make. Tell your TI friends about UNOFFICIAL and ask them why do not have a subscribtion to it.

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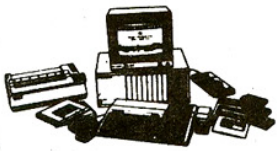

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NEW

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Entertainment

Command Modules

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Adventure International Packages (Developed by Scott Adams)

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PHT	6054	OR PHD 5054	Savage Island I & II	30.95
PHT	6056	OR PHD 5056	Golden Voyage	22.95

Cassette

Texas Instruments Packages

PHT	6010	Mystery Melody	7.95
PHT	6015	Oldies But Goodies — Games I	10.95
PHT	6017	Oldies But Goodies — Games II	15.95

OTHER APPLICATION PROGRAMS

Command Modules

PHM	3011	Speech Editor (Solid State Speech™ Synthesizer is required)	36.95
PHM	3014	Statistics (Data storage system is recommended)	36.95
PHM	3026	Extended BASIC	74.95
PHM	3035	Terminal Emulator II	36.95
PHM	3055	Editor Assembler (Disk System and 32K RAM Memory Expansion required)	74.95
PHM	3058	Mini-Memory	74.95

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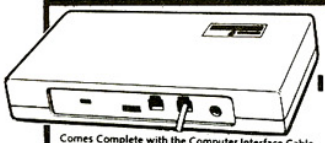

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As the days go by I am receiving more and more subscriptions from north of the boarder. Canadians are just as interested in the TI-99/4A as those south of the boarder. Canadians also have several good places that you can buy software. Then why do the Canadians have to pay more to subscribe to UNOFFICIAL -and any other U.S. printed magazine.

Simply stated mail that goes outside the 52 states must go by regular mail at regular rates. Mail inside the states can be sent using bulk rate. You guessed it, bulk rate is far cheeper than regular mail.

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Did you find the error in the formula in last issues Amore Ametorization ?

I hope you had no difficulty in understanding the programs, but it would be nice to know the formula that the programs are based on.

$$A = P\left[\frac{i}{(1+i)^n - 1} + i\right]$$

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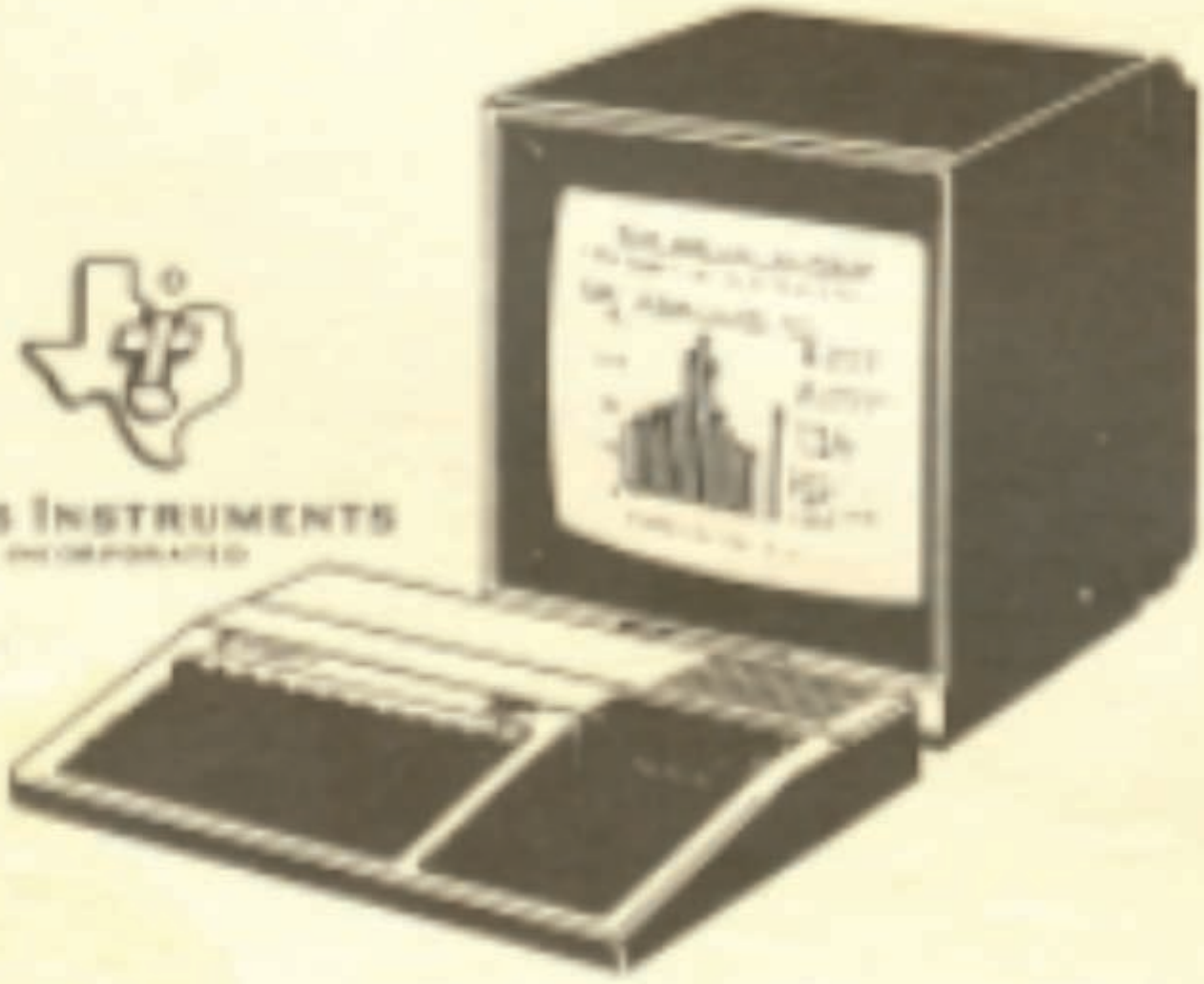

- Published by TI99 Italian User Club (info@ti99iuc.it) in September, 2010