PRESIDENT'S NOTES by L. R. Livergood

Greetings from the newly elected officers of the Decatur 99'er H.C.U.G. As fo
myself, I regret not being able to attend the last meeting but, as many of yo
already know, my wife and I drove to Atlanta for a brief stopover and then yes
on to WALLY WORLD! I'd just like to say that we passed St. Louis withou
incident and my grandmother is alive and well, thankyou. As for all you anima
lovers, you can rest assured since we don't own a dog.

On a more serious note we'd like to thank Joe McMahan for his dedication an
hard work as last year's president as well as the other officers, chairmen, an
volunteers who contributed to the success of our first year. We'd like to ad
that as new officers, we're looking forward to continuing these efforts.

While reading through this months edition of our newsletter you might see som
changes. Included among the excellent articles from our members, there wil be
few new columns intended to inform you of current events. FROM THE MAILROO
will bring you the word on this month's mail including new product announcement
and group correspondence. There will also be a column entitled OFFICERS NOTE
which will summarize the officers meeting held before the monthly grou
meetings. Hopefully these columns will increase your awareness of what'
happening within the group.

Speaking of group meetings, please note that the one scheduled for July 12 wil
be informal. There will be very little on the business end and a lot on actua
programming. I suggest that those of you who might be working on some of you
own programs to bring them for discussion and/or demonstration. We'd like t
encourage those who have purchased any of the new TI cartridges to conside
bringing them in also.

Hope to see all of you there!

OFFICER'S NOTES

This month's officers meeting was held on Monday, July 2 at the home of Ja
Seaberg, our new Vice President. As one might imagine, there were many thing
to talk about in order to ready ourselves for the next twelve months. Needles
to say we barely scratched the surface.

Much of our effort went towards establishing the duties of the newly create
office of Corresponding Secretary, held by Mary Brummett. Initially, Mary wil
be in charge of incoming mail and correspondence. She'll report on any ne
findings and announcements in each newsletter in the column entitled FROM TH
MAILROOM. Also, we intend to permit the checkout of other groups newsletters o
a monthly basis. Mary will develop the rules and procedures for this as quickl
as possible.

We have begun the effort to fill the positions of Committee Chairmen with th
anouncement of Joe Mcmahan as the new Library Chairman. Joe has the equipmen
necessary to develop and maintain the group library, as well as the drive t
make it successful. We expect to here from him soon on checkout proceedures an
program availability. If you have programs to contribute, please see Joe at on

of the next meetings.

We may have a new Editor for our newsletter. Jim Freeman has expressed interes
and also owns the necessary equipment. Hopefully, if all goes well, Jim wil
begin his new position with the printing of this newsletter.

Finally, as a result of our brainstorming session, we have come up with a fe
exciting ideas for future meetings. An announcement of some of these ideas wil
be forthcoming.

CHALLENGE CORNER

Here is the only response we have received to the challenge of writing a prim
number generator.

The author of this neat little program is Charles Springer. The progra
contains all the documentation internally in 'rem' statements. Our thanks t
Chuck for sharing his solution with all of us.

```
100 REM /CALCULATE FIRST 'K' PRIME NUMBERS/[NOTE: K<=1000] /C S STRINGER/ 23
APRIL 1984//**CONSOLE BASIC**
110 REM REVISIONS:5-6-84/ 5-11-84/6-15-84/ 6-18-84/6-22-8 4/ 6-24-84//
120 CALL CLEAR
130 INPUT "HOW MANY PRIME NUMBERS DO YOU WANT?":K
140 IF K>1000 THEN 150 ELSE 180
150 PRINT " ":"NOT MORE THAN 1000, PLEASE"::
160 GOTO 130
170 REM  CLEAR SCREEN AND
180 GOSUB 750
190 REM    DEFINE A STORAGE
200 DIM PLIST(1000)
210 REM ENTER THE FIRST PRIME NUMBER INTO THE LIST.
220 PLIST(1)=2
230 REM ...AND INITIALIZE 'PCOUNT', WHICH COUNTS THE NUMBER OF PRIMES.
240 PCOUNT=1
250 REM GENERATE A NUMBER, 'N', TO BE TESTED FOR 'PRIMENESS'; ONLY ODD NUMBERS
ARE EXAMINED,
260 REM ...EVEN NUMBERS ARE ALWAYS  DIVISIBLE BY 2 AND  THEREFORE CANNOT BE PR
E..
270 FOR N=3 TO 10001 STEP 2
280 REM CALCULATE 'SIEVE', WHICH IS THE UPPER LIMIT FOR OUR TEST
290 SIEVE=SQR(N)
300 REM  BEGIN THE TEST LOOP
310 FOR LOOP=1 TO PCOUNT
320 REM  RETRIEVE A PRIME
330 PRIME=PLIST(LOOP)
340 REM ...AND TEST TO SEE IF IT IS GREATER THAN 'SIEVE'. IF SO WE NEED NOT GO
ANY FURTHER...
350 REM ...FOR WE HAVE TESTED ALL POSSIBLE FACTORS...WE THEREFORE JUMP OUT
OF THE LOOP.
360 IF PRIME>SIEVE THEN 530
370 REM BUT IF 'PRIME' IS NOT GREATER THAN 'SIEVE', WE DIVIDE 'N' BY
'PRIME'...
380 QUOT=N/PRIME
390 REM IS 'N' AN EXACT MULTIPLE OF THE PRIME? ...IF SO 'QUOT' SHOULD BE A
WHOLE NUMBER...
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400 REM    ...AND 'DIFF'
410 DIFF=QUOT-INT(QUOT)
420 REM ...BUT SOMETIMES N ZERO AND A VERY SMALL
430 REM ...NUMBER, SO WE TEST TO SEE IF 'DIFF' IS 'NEARLY ZERO'. ..
440 REM ..(WE WILL SAY THAT A NUMBER SMALLER THAN 1/10,000 IS 'NEARLY
ZERO')...
450 IF DIFF<.0001 THEN 600
460 REM
470 REM IF SO, WE KNOW THAT 'N' IS A MULTIPLE OF A PRIME NUMBER, AND CAN NOT
ITSELF BE PRIME.
480 REM WE BRANCH OUT OF THE TEST LOOP AND GET THE NEXT VALUE OF 'N'.
490 REM ...BUT IF 'DIFF' IS NOT SMALL, WE GO BACK TO TEST AGAINST THE NEXT
ENTRY IN THE PRIME LIST.
500 NEXT LOOP
510 REM ...IF THE LIST OF PRIMES IS EXHAUSTED (THAT IS, IF 'LOOP ' IS EQUAL TO
'PCOUNT')
520 REM ...WE DROP THROUGH, INCREMENT 'PCOUNT'
530 PCOUNT=PCOUNT+1
540 REM ...AND STORE 'N' IN THE LIST OF PRIMES.
550 PLIST(PCOUNT)=N
560 REM ...WE ALSO MAKE A LITTLE NOISE TO PROVE TO YOU THAT WE'RE NOT ASLEEP!!
570 CALL SOUND(-50,440,5,880,8)
580 REM ...WHEN OUR LIST IS FULL WE PRINT IT.
590 IF PCOUNT>=K THEN 610
600 NEXT N
610 LIMI=INT((K+3)/4)
620 LIMIT=K
630 FOR I=1 TO LIMI
640 LIMJ=4
650 IF LIMIT>4 THEN 670
660 LIMJ=LIMIT
670 FOR J=1 TO LIMJ
680 PRINT TAB(7*(J-1));PLIST(4*(I-1)+J);
690 NEXT J
700 LIMIT=LIMIT-4
710 NEXT I
720 PRINT ::
730 STOP
740 REM
750 CALL CLEAR
760 PRINT :::::::
770 PRINT "    PROGRAM TO CALCULATE":::::
780 PRINT "THE FIRST";K;"PRIME NUMBERS"
790 PRINT ::::::
800 FOR DELAY=1 TO 50
810 NEXT DELAY
820 RETURN
830 REM
840 REM IN PRACTICE, THE PROGRAM NEVER 'DROPS THROUGH' LINE OO, BECAUSE THE
TEST IN
850 REM LINE 360 ALWAYS TRANSFERS TO LINE 530 BEFORE ALL THE
860 REM ENTRIES OF 'PLIST' ARE EXAMINED.
870 REM
880 REM THE PROGRAM WORKS PERFECTLY WELL IF LINES 290 AND 360 ARE OMITTED, BUT
890 REM EXECUTION IS MUCH SLOWER, ESPECIALLY AT LARGE VALUE S OF 'N'.
900 REM DO YOU SEE WHY THIS IS SO?
910 REM THIS TEST IS CALLED 'THE SIEVE OF ERATOSTHENES ',
920 REM AFTER ITS INVENTOR, WHO LIVED FROM 276- 194 B.C.
930 END
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UPDATE ON LOAD PROGRAMS...by J.L.McMahan

Last fall I presented a reprint of the Load Program by A. Kludge from the letters to editor of 99er Magazine. Since that time, several versions of that program have surfaced. The first that attracted my attention was by T. H. Boisseau in the A9CUG NEWSLETTER, Dec,1983-Jan 1984 edition. It added information on the available sectors on the disk, a valuable asset at times. But alas, it still was plagued with a limit of 20 programs or files and left you without a full picture of the disk. For those with single side, single density drives, this may not be of interest. Those with double side drives usually have more than 20. I enhanced this version to show 40. Just as I was ready to publish this version, Jim Peterson of TigerCub Software out did me by giving up to 80 programs or files. Jim did a fine job but his graphics slipped a little after the first 19 programs. Both of these versions allow deletions, but the second asks for verification, a useful feature. I have modified the attached editon to correct the graphics. If you have 20 programs or less on a disk, the A. Kludge version will probably be for you. If not, then try one of these. One word of advice. If you are already using the A. Kludge version, you can edit it to get these if you are careful not to overwrite existing lines.

```
80 REM LOAD PROGRAM BY A. KLUDGE AND MODIFIED BY
   T.H.BOISSEAU AND BY J. L. McMahan

100 CALL CLEAR :: CALL SCREEN(5):: FOR A=0 TO 14 :: CALL
    COLOR(A,16,5):: NEXT A
102 INPUT "DISK NO:";Z$ :: Z=INT(Z$):: IF Z<1 OR Z>3 THEN
    102
105 OPTION BASE 1 :: DIM A$(40):: OPEN #Z:"DSK"Z$".",INPUT
    ,RELATIVE,INTERNAL :: INPUT #Z:B$,B,B,C :: DISPLAY
    AT(1,1):"DISK: ";B$ :: D,E=0
110 DISPLAY AT(1,19):USING "###":B-C :: DISPLAY
    AT(1,23):"USED" :: DISPLAY AT(2, 19):USING "###":C ::
    DISPLAY AT(2,23):"FREE" :: FOR F=1 TO 40
120 D=D+1 :: IF D>127 THEN 160
130 INPUT #Z:C$,B,G,G :: IF LEN(C$)=0 THEN 160
140 IF (ABS(B)<>5)*(ABS(B)=5)THEN 120
142 IF F<=20 THEN 150
145 DISPLAY AT(F-18,15)SIZE(14):CHR$(40);CHR$(76+F);
    CHR$(41);" ";C$ :: E=E+1 :: A$(E)=C$ :: GOTO 155
150 DISPLAY AT(F+2,1)SIZE(14):CHR$(40);CHR$(64+F);CHR$(41);"
    ";C$ :: E=E+1 :: A$ (E)=C$
155 NEXT F
160 CLOSE #Z
170 D$="PRESS A LETTER TO RUN OR 1 TO DELETE OR 2 TO EXIT. "
180 DISPLAY AT(24,1):SEG$(D$,1,28)::
    D$=SEG$(D$,2,51)&SEG$(D$,1,1):: FOR H=1 TO 10 :: NEXT H
    :: CALL KEY(5,I,J):: IF J=0 OR I<49 OR(I>51 AND I<65)OR
    I>116 THEN 180
185 IF I>96 THEN I=I-12
190 IF I>50 THEN 270
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200 IF I>49 THEN 260
210 DISPLAY AT(24,1):"WHICH PROGRAM?" :: FOR A=1 TO 400 ::
    NEXT A
220 CALL KEY(5,I,J):: IF J=0 THEN 220
230 IF I<65 OR I>116 THEN 170
240 IF LEN(A$(I-64))=0 THEN 170
250 DISPLAY AT(24,1):"DELETE ";A$(I-64):: DELETE
    "DSK"&Z$&"."&A$(I-64):: RUN "DSK1.LOAD"
260 END
270 IF LEN(A$(I-64))=0 THEN 170
280 DISPLAY AT(24,1):"RUN ";A$(I-64)
290 CALL INIT :: CALL PEEK(-31952,K,L):: CALL
    PEEK(K6+L-65534,K,L):: M=K6+L-65534 ::
    E$="DSK"&Z$&"."&A$(I-64):: CALL LOAD(M,LEN(E$))
300 FOR N=1 TO LEN(E$):: CALL LOAD(M+N,ASC(SEG$(E$,N,1))):: 
    NEXT N :: CALL LOAD( M+N,0)
310 RUN "DSK"&Z$&".1234567890"


90 REM AUTO LOAD PROGRAM BY J. PETERSON AND AS MODIFIED BY
   J. L. McMahan
100 OPTION BASE 1 :: DIM PG$(99),T$(5):: CALL CLEAR
110 T$(1)="DIS/FIX" :: T$(2)="DIS/VAR" :: T$(3)="INT/FIX" ::
    T$(4)="INT/VAR" :: T$(5)="PROGRAM"
120 IMAGE ##
130 DISPLAY AT(1,9)ERASE ALL:"DISKETTE MENU" :: DISPLAY
    AT(12,6):"DISK? (1-3): " :: ACCEPT
    AT(12,19)SIZE(-1)VALIDATE("123"):D$ :: D$="DSK"&D$&
    "."
150 OPEN #1:D$,INPUT ,RELATIVE,INTERNAL :: INPUT
    #1:N$,A,J,K
160 CALL HEADING(D$,N$,A,J,K)
170 I=0 :: XX=4
180 FOR X=1 TO 80 :: IF X/20<>INT(X/20)THEN XX=XX+1 ::
    DISPLAY AT(24,1):"ANY KEY TO STOP" :: GOTO 210
190 DISPLAY AT(24,1):"TYPE CHOICE OR 99 FOR MORE" :: ACCEPT
    AT(24,27)VALIDATE(DI GIT):K :: IF K=99 THEN XX=5 :: CALL
    CLEAN :: GOTO 210 :: IF K<X+1 AND K>0 THEN 60 ELSE 190
210 I=I+1 :: IF I>127 THEN K=X :: GOTO 300
220 INPUT #1:P$,A,J,B
230 IF LEN(P$)=0 THEN 270
240 DISPLAY AT(XX,2):USING 120:X :: DISPLAY AT(XX,6):P$ ::
    PG$(X)=P$ :: DISPLAY AT(XX,18):USING 120:J :: DISPLAY
    AT(XX,22):T$(ABS(A))
250 CALL KEY(0,KK,ST):: IF ST=0 THEN 260 :: FLAG=1 :: GOTO
    280
260 NEXT X
270 DISPLAY AT(XX,1):" A) TERMINATE B) DELETE"
280 DISPLAY AT(24,1):" CHOICE"
290 ACCEPT AT(24,12)SIZE(2)VALIDATE(DIGIT,"AB"):K$ :: IF
    K$="A" THEN 300 :: IF K$="B" THEN 310 :: K=INT(K$):: IF
    K<>X AND K<>X+1 OR FLAG=1 THEN 350
300 IF K$="A" THEN CALL CLEAR :: CLOSE #1 :: END
310 DISPLAY AT(23,1):"" :: DISPLAY AT(23,1)SIZE(18):"DELETE
    #?" :: ACCEPT AT(23, 9)SIZE(2)VALIDATE(DIGIT):KD :: IF
    KD<1 OR KD>X-1 THEN 310
320 DISPLAY AT(24,1)SIZE(28)BEEP:"VERIFY DELETE"&PG$(KD)&" (Y/N)"
    ACCEPT AT(24,27)SIZE(2)VALIDATE("YN"):KD$ :: IF KD$<>"Y"
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THEN 340
330 DELETE "D$"&PG$(KD)
340 CLOSE #1 :: GOTO 130
350 IF K<1 OR K>99 OR LEN(PG$(K))=0 THEN 270
    X60 CLOSE #1
370 CALL INIT :: CALL PEEK(-31952,A,B):: CALL
    PEEK(A6+B-65534,A,B):: C=A6+B-65534 ::
    A$=D$&PG$(K)::   CALL  LOAD(C,LEN(A$))  3B0 FOR I=1  TO
    LEN(A$):: CALL LOAD(C+I,ASC(SEG$(A$,I,1))):: NEXT I ::
    CALL LOAD( C+I,0)
390 RUN "DSK1.1234567890"
400 SUB HEADING(D$,N$,A,J,K)
410 DISPLAY AT(1,1)ERASE ALL:SEG$(D$,1,4)&" _
    DISKNAME="&N$;
420 DISPLAY AT(2,1):"AVAILABLE=";K;"USED=";J-K;;"PROG
    FILENAME SIZE TYPE";"_____."
430 SUBEND
440 SUB CLEAN
450 FOR X=1 TO 32 :: CALL VCHAR(5,X,32,19):: NEXT X
460 SUBEND
```

ATTENTION!!!

THIS MONTH's MEETING WILL BE THURSDAY,

JULY 12, at 6:30 pm in the library board room.

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