Mass Users of the Ninety-nine and Computer Hobbyists

FEBRUARY 1997 Monthly Newsletter Version 16.02

GREAT REMORSE FOR REJECTED TIers AROUND THE COUNTRY

M.U.N.C.H.
C/O J. W. COX
905 EGDEBROOK DRIVE
BOYLSTON, MASS. 01505

NEXT MEETING: TUESDAY, FEBRUARY 1th.
PLEASE NOTE: THIS ISSUE HAS 8 PAGES.

BOB BISHOP'S E/MAIL ADDRESS: TI99@THERIVER.COM

FIRST CLASS!!

NEXT MEETING TUESDAY, February 11, 1997 7:00 PM. HAPPY VALENTINE'S DAY!
OFFICERS AND NUMBERS (all in 508 area unless noted)

```
PRESIDENT              Walt Nowak 413-436-7675
VP./Treas./Editor      Jim Cox         869-2704    MUNCH DUES:
DEMO LEADERS:          Corson Wyman    839-7002    New Membership  $25.00
                                                   Renewal         $15.00
CLERK                  Ben Parda       791-9172    Newsletter Sub. $13.00
Advanced Programmer Dan Rogers         248-5502
```
****

JANUARY MEETING. Walter and Jim were the only attenders at this meeting, it
was a quiet get to gether.

FEBRUARY MEETING. I, Jim, will not be able to make the meeting because the
Bank Examiners will be viciously attacking me. I hope Walter, Ben Corson
and the others will come up with something.

HELP WANTED. The following disks in the Tigercub Collection are still
missing from our set, if you have them please send them to Jim Cox or bring
them to a meeting. They are 603, 1309.2, 1382.2 and 1472.   Thanks to long
distance member Bryant Krause for sending a number of the missing and
problem disks to the group. This is greatly appreciated.

REPRINTS. Reprints are permitted as long as credit is given to M.U.N.C.H.

ARTICLES. I am always looking for articles for this newsletter, anything
which interest you will probably interest other members of the T.I.
community, so please share your ideas and opinions with all of us.

DISK LIBRARY. The disk library is at all meetings. We have copies of all
disks in the library and they are available to members for just $1.00 for
each disk unless otherwise specified. You can order them through the mail,
please add $1.00 for the first disk and $.40 for each additional disk
ordered to cover postage and handling.

DISK OF THE MONTH. I have not decided on this month's disk but I will have
one at the meeting. For those interested, I have not received the latest
version of Mickey Cendrowski's Load Master. If it comes between now and the
meeting I will bring it.

ADVENTURE II. This is our fund-raiser for now. The cost to members is
$4.00, add $2.00 for first class postage. The regular price is $6.95 plus
postage. This is a two DSSD disk set, archived. There is also a special on
The Adventure Compendium and Adventure II for members it is $8.00 plus
$3.00 for first class postage.

HAPPY BIRTHDAY M.U.N.C.H. The group started in September 1982 with our
first meeting at the Worcester Public Library. We made it to 14!!!

— BASIC BASICS —
GETTING STARTED IN PROGRAMING

BUILDING TABLES

By: Don Turner:New Horizons Users Group

One of the most useful ways to handle a large number of records is to put them into a table or array. Most sorting programs utilize tables, games use them for random picking and the list goes on. The TI can handle around 1600 elements in a table depending on the size of your program. The larger your program, the smaller the table and the opposite holds true as well. The TI can handle up to three dimensional tables as well. However these large tables will eat up a lot of memory.

To set your table up, the DIMension statement must be used for a table having more than 9 elements in it. Your statement would look like this : 100 DIM A(100). This will give you 100 elements in the table declared as A. The big advantage of this is that you do not have to create 100 variable names. The variable A now has 100 locations to store data in.

Let me explain better. Let's say you have 50 variables, you could name them A1,A2,A3 etc. Your program could not use a loop to load each variable. Therefore, you would have to write at least 50 input statements to load the data when 3 lines would do the job just as well.

```
10 INPUT A1 20 INPUT A2
30 INPUT A3.......
500 INPUT A50
```

Using a FOR NEXT LOOP would work just as good and save time and most of all memory.

```
10 FOR I=1 TO 50
20 INPUT A(I)
30 NEXT I
```

For the beginners, the value of I increments by 1 when line 30 is executed, then control is passed back to line 10 until I is greater than 50. To retrieve the data in a specific location in your table you would use the numeric value of that location to get that information. Let's say you wanted to get the 34th value of A(34). You would merely tell the computer :

```
10 PRINT A(34)
```

To create a two dimensional table the DIM statement would look like this:

```
10 DIM A(8,3)
```

This would give you a table 8X3 or 24 elements. Your table would resemble a piece of graph paper having rows and columns. Note the figure below.

	1	2	3	4	5	6	7	8
1	:	:	:	:	:	:	:	:
2	:	:	:	22:	:	:	:	:
3	:	:	:	:	:	:	:	:
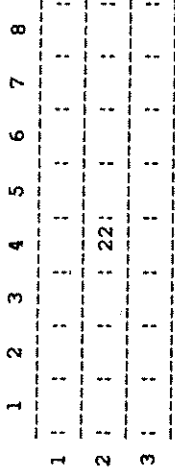
Look at the location 4,2. You will note the number 22. If you wanted to input or print that element you would use location A(4,2).

The most difficult table to use is a 3 dimensional table wich has rows columns and depth or sides. As you guessed it, the DIM statement would look like this:

```
10 DIM A(3,3,3) giving you 27 locations
```
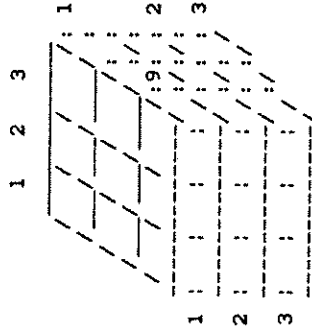

If you look at the figure above I put the value 9 in the location A(1,3,2) ROW 1, COLUMN 2, DEPTH 2. The value of a table dimensioned this way could enable you to locate a reservation in a (THEATER,ROW,SEAT) or finding a persons name in a (NAME ,STATE,CITY). These tables are difficult to master until you have used them for several applications. I still have to sit back and draw them up on paper to figure out what I need to do when I use them.

TI SPEECH NOTES
FOR EXTENDED BASIC
OR SPEECH EDITOR

Automatic speech with one line:

```
10 CALL SAY("I AM A COMPUTER")
```

Symbol surrounds phrases from vocabulary:

```
10 CALL SAY("I AM A #TEXAS INSTRUMENTS#
COMPUTER")
```

The manual lists words and phrases from the regular vocabulary (373 in all). You could include many CALL SAY lines to allow the computer to speak for you.

You can assign speech to a variable especially for repeated speech:

```
10 A$="PLEASE SPELL "
20 B$="CASSETTE"
30 CALL SAY(A$&B$)
```

There are symbols to set fractions of seconds between words:

```
10 CALL SAY("TAKE.TIME")
20 CALL SAY("TAKE..TIME")
30 CALL SAY("TAKE+TIME")
```

```
+ for  0 seconds     ; for .5 seconds
  for .1 seconds     : for .8 seconds
- for .2 seconds     . for  1 second
, for .3 seconds
```

Make a new word with +:
```
10 CALL SAY("SOME+ONE")
20 CALL SAY("MIGHT+E")
30 CALL SAY("FOR+GIVE")
```

Spelling test program (could add more words, randomize questions, keep score):

```
10 A$="PLEASE SPELL "
20 B$="#THAT IS RIGHT#"
30 C$="#THAT IS INCORRECT#"
40 D$(1)="CASSETTE"
50 D$(2)="DISKETTE"
60 D$(3)="FOURTEEN"
70 FOR I=1 TO 3
80 CALL SAY(A$&D$(I))
90 INPUT T$
100 IF T$=D$(I) THEN 110 ELSE 130
110 CALL SAY(B$)
120 GOTO 140
130 CALL SAY(C$)
140 PRINT D$(I)
150 NEXT I
160 CALL SAY("YOU ARE FINISHED NOW")
```

CALL SPGET utility (direct strings) gives slightly more natural speech than the CALL SAY utility (word strings). Let's compare:

CALL SPGET example:

```
10 CALL SPGET("YOU",A$)
20 CALL SPGET("ARE",B$)
30 CALL SPGET("FINISHED",C$)
40 CALL SAY("",A$,"",B$,"",C$)
```

CALL SAY example:

```
10 CALL SAY("YOU ARE FINISHED")
```

You can use direct strings and word strings together but only by alternating:

```
10 CALL SPGET("ARE",A$)
20 CALL SPGET("NOW",B$)
30 CALL SAY("YOU,A$,"FINISHED",B$)
```

Display the internal speech code from SPGET to the screen:

```
10 CALL SPGET("HELLO",A$)
20 PRINT A$
```

ASCII numerical code for each character of SPGET direct string:

```
10 DIM A(200)
20 INPUT "INPUT WORD: ":W$
30 CALL SPGET(W$,A$)
40 L=LEN(A$)
50 PRINT "ASCII CODE FOR EACH
CHARACTER:"
60 FOR I=1 TO L
70 A(I)=ASC(SEG$(A$,I,1))
80 PRINT A(I);" ";
90 NEXT I
100 INPUT "PRESS A KEY ":X$
110 FOR I=1 TO L
120 N$=N$&CHR$(A(I))
130 NEXT I
140 CALL SAY("",N$)
150 PRINT N$
```

The last part of the above program is an example of how you could create your wown words (especially if you did not have the Terminal Emulator II cartridge).

SPEECH

SIMPLE TO USE, POWERFUL CAPABILITIES

By Don Grin

The availablility for speech on the TI computer is remarkable in many ways. The speech is very clear human tone. The equipment needed for the speech is minor consisting of a console, speech synthesizer, and one software cartridge either TI Extended BASIC, Speech Editor, or Terminal Emulator II). A cassette recorder can store any programs written for speech. The basic routine for speech is as simple as typing a CALL SAY command. The manual for each software cartridge is well written for learning with nice examples to enhance understanding. My first speech program was written as follows:

```
10 CALL CLEAR
20 PRINT "ENTER LETTER (A-M)"
30 CALL KEY(0,KEY,STATUS)
40 IF STATUS=0 THEN 30
50 X=KEY-64
60 ON X GOTO 70,80,90,100,11
0,120,130,140,150,160,170,18
0
70 CALL SAY("I AM A COMPUTER
")
75 GOTO 10
80 CALL SAY("WHO ARE YOU")
85 GOTO 10
90 CALL SAY("SAY WHAT")
95 GOTO 10
```

The pattern continues down to line 195 with words in each CALL SAY command as follows: DO YOU WANT TO START SOMETHING, UNOH, HELLO, GOOD BYE, I DO NOT UNDERSTAND, #WHAT WAS THAT#, #TRY AGAIN#, #THAT IS RIGHT#, #THAT IS INCORRECT#, YOU ARE FINISHED NOW. Those phrases surrounded by a # symbol distinquish them as special phrases from the speech vocabulary.

I used the above program in a telephone conversation authorizing the computer to do all the talking for me by entering a letter from A through M. The program could be expanded with menus and sub-menus to aid those who are limited (even laryngitis) by their regular human speech. A similar system was written for Stephen Hawking. He is disabled in his speech and wrote the scientific best-seller book titled "A Brief History of Time". Speech routines are helpful in a spelling test program allowing the computer to ask what words to spell. Speech routines in a program permit the blind to use a computer. So, computer speech can help the blind to read with their ears and help the deaf to talk automatically and independently.

The regular speech routines allow a TI computer to be up and talking in no time. The TI computer is also flexible if you want to specialize speech. You can use special symbols (+ - , ; : .) to set a pause between 0 and 1 seconds by fractional time increments. You can assign words to variables to save typing repeating words or sets of words. You can use the SPGET command for viewing the internal speech code, storing speech data, and for a slightly more natural sounding speech.

If you want the ultimate in speech flexibility, experiment with the Terminal Emulator II cartridge. It increases the regular vocabulary of 373 words and phrases to any imaginable words. You can also adjust the pitch (highness) and slope (pitch rate) to fine tune the speech even to a realistic whisper. There is an option to adjust for inflection by stressing certain words or syllables so that you can even force the phrase "What time is it" to sound exactly like a question. It will do a good job of interpreting and pronouncing any words but you can use the allophones option to access any kind of original sounds for words with fine distinction (like the difference between skull and pull).

The TI computer speech matches human speech nicely for it abides by the philosophy that it is not always "what you say" but "how you say it". It also posesses a human quality with the word UHOH included in the regular vocabulary

TI SPEECH NOTES FOR TERMINAL EMULATOR II

By Don Grin

Automatic speech of any imaginable words with just two lines:

```
10 OPEN #1:"SPEECH",OUTPUT
20 PRINT #1:"THANK YOU AND G
OD BLESS THE UNITED STATES O
F AMERICA"
```

Set pitch (highness 0-63) and slope rate (0-255):

```
10 OPEN #1:"SPEECH",OUTPUT
20 PRINT #1:"//50 160"
30 PRINT #1:"SPEAKING AT 5 0
PITCH AND 1 6 0 SLOPE"
```

If pitch and slope are not indicated, the computer will speak at 43 pitch and 128 slope.) pitch will produce a whisper. The ideal slope is defined in the manual as: 10 percent of pitch, round it, then multiply by 32.

To avoid garbled speech, stay below following maximum slope (p is pitch): slope is not to exceed:

POS(16XPOS(32-p)-496)   (where POS is a positive value)

Example: If pitch equal 50, the slope is not to exceed:
POS(16XPOS(32-50)-496) =
POS(16X18-496) = 208
Test program for pitch, slope, and phrase:
```
10 OPEN #1:"SPEECH",OUTPUT
20 INPUT "INPUT PITCH ":A$
30 INPUT "INPUT SLOPE ":B$
40 PRINT #1:"//"&A$&" "&B$
50 INPUT "INPUT PHRASE ":C$
60 PRINT #1:C$
70 GOTO 20
```

Inflection symbols can precede words for special stressing of words:

^ to stress primary word (1 per line)
_ to stress secondary words (no limit per line)
> to stress syllable of word

Inflection samples:

```
10 OPEN #1:"SPEECH",OUTPUT
20 PRINT #1:"^SUPER"        primary word
                           emphasis
30 PRINT #1:"^>SUPER"       primary word
                           and syllable
                           emphasis
40 PRINT #1:"WHAT TIME IS IT" statement
                              format
50 PRINT #1:"_WHAT^TIME IS_IT" question
                              format
60 PRINT #1:"_WHAT TIME^IS_IT" another
                              question
                              format
```

Allophone option to create words right from original sounds:

```
10 OPEN #1:"SPEECH",OUTPUT
20 OPEN #2:"ALPHON",INTERNAL
30 PRINT #1:"I WILL CREATE SKULL."
40 A$=CHR$(120)&CHR$(103)&CHR$(70)
50 PRINT #2:A$
60 PRINT #1:"I WILL CREATE PULL."
70 B$=CHR$(109)&CHR$(71)
80 PRINT #2:B$
```

Program to print allophone codes from a word:

```
10 OPEN #1:"SPEECH",OUTPUT
20 OPEN #2:"ALPHON",INTERNAL
30 INPUT "PHRASE: ":A$
40 PRINT #1:A$
50 INPUT #2:B$
60 PRINT "INTERNAL CODE IS: ":B$
70 PRINT "ALLOPHONE CODES FOR ";A$;" ARE
; "
80 L=LEN(B$)
90 FOR I=4 TO L
100 PRINT ASC(SEG$(B$,I,1))
110 NEXT I
120 GOTO 30
```

There are less allophone speech codes needed for a word than speech codes with SPGET. The manual lists character codes for various allophone sounds as well as various stress, pitch, and slope options.

Disk Tips to Keep You Out of Trouble

A while back a "Disk Doctor" attended one of our meetings. He had a number of interesting things to say. Here are a few of his comments:
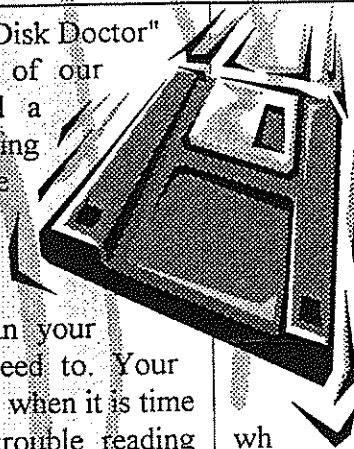
> Do not clean your drives until you need to. Your system will tell you when it is time - you will have trouble reading disks.

> When you clean your drive, use any brand name commercial disk drive cleaner and follow instructions.

> If this fails, you need to have the drive cleaned professionally. If you want to try it yourself, and you have a double-sided drive, be careful with the second read/write head. It is very easy to bend the bracket to the point that the head must be realigned.

> He has tested the amount of residue left on heads with brand name disks and cheapies. He found no difference. This does not mean that they are of equal quality, only that the cheapies are not dirtier than the expensive disks.

> He opposes flippies for single-sided users. His point is that when you flip a disk and it runs backwards in its cover, dirt is loosened and spun into the drive.

Over the years I have mentioned the importance of backing up your disks. Simply put, disk drives eat disks. One weekend when the temperature was over 100 degrees F., I was working on some letters. I blew both my word processing disk and my data disk.

I had a backup of the word processor, but it was not configured. That night, after it cooled down a bit, it took me about 30 minutes to recreate a working disk. The data files were simply lost.

The moral? Keep two backups of your program disks - one of the disk as you received it (the master) and one of your configured working disk (backup working disk). Do not forget to backup your data disks every now and then. This will save you time and aggravation next time your drive gets hungry.
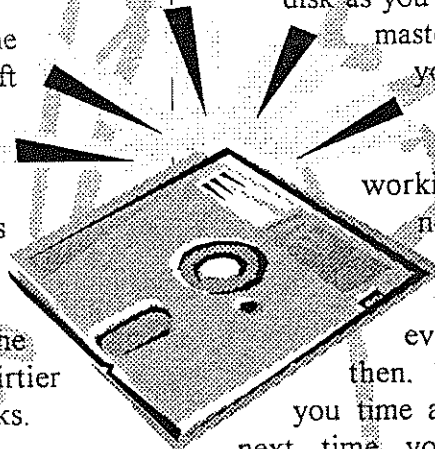
M.U.N.C.H. NOTES

by

Jim Cox

This newsletter will be eight pages from now on. It is getting very hard to find enough information to fill up a newsletter each month. The number of clubs has diminished in the last two years. I try to print everything I get which I feel is of interest and then I try to find some old stuff which you might like to see. If anyone wants to do some writing it would be appreciated.

I got a nice letter for Bob Bishop in Australia, he is interested in corresponding with anyone via the Internet. If anyone has an internet address send it to me and I will publish it in an upcoming newsletter. Bob sent me his address but I am writing this at work and I don't have it. For those interested, I will put it on the cover of the newsletter.

Thanks again to Bryant Krause for sending the Tigercub Disks on which I had read errors. This is very helpful.

MEMBERSHIP UPDATE

We currently have 20 members. Those located in New England who we see at meetings are Jim Cox, Walt Nowak, Dan Rogers, Vin Hermanson, Chris Georges, Frank Reheuser, Art Stutz, Ben Parda, Bill McGrath, Gary Fitzgerald and Corson Wyman.

Out of area members are Robert Kirby, Malvern, Pa; H. T. Kipling, Fort Wayne, In.; Bryant Krause, Mira Loma, Ca.; Leslie Hadley, Levittown, Pa.; Climpson Clapp, Portland, Or.; Bob Metz, Niagara Falls, N.Y.; Phyllis Rothstein, Suffern, N.Y.; Harry Guenther, Syosset, N.Y. and Jacques Groslouis, New Brunswick Canada.

We exchange newsletters with 11 clubs in the U.S., one in Canada and two in Australia.

As you can see, the T.I. world is getting smaller.

HAPPY VALENTINE'S DAY

ADC

M.U.N.C.H.
C/O J. W. COX
905 EGDEBROOK DRIVE
BOYLSTON, MASS. 01505

NEXT MEETING: TUESDAY, FEBRUARY 14th.

POSTMASTER: Forwarding and Address Correction Requested.

FIRST CLASS!!

R.A. BISHOP
16 FRENCH AVE
NORTHCOTE 3070.
VICTORIA   AUSTRALIA

NEXT MEETING TUESDAY, Feb. 14, 1995 7:00 PM. Happy Valentine's Day!

MUNCH OFFICERS AND NUMBERS (all in 508 area unless noted)

PRESIDENT	W. C. Wyman	865-1213		
VICE-PRESIDENT	Open		MUNCH DUES:	
TREAS./EDITOR/CLK.	Jim Cox	869-2704	New Membership	$25.00
DEMO LEADER	Jack Sughrue	476-7630	Renewal	$15.00
Asst. Demo Leader	Lou Holmes 617-965-3584		Newsletter Sub.	$13.00
LIBRARIAN	Walt Nowak 413-436-7675			
Advanced Programmer	Dan Rogers	248-5502		

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JANUARY MEETING. The January meeting had eight members in attendance. We demoed the DOM and did some more work on Walt's Ram disk, which was giving him some problems. Walter won the raffle for the second month in a row. We saw some seldom seen members like Tony Falco. It was great to see him again. Tony and Jack spoke about the PC Fairs held in Marlboro and some of the great buys that can be had at them.

FEBRUARY MEETING. It's pot luck for this month. We can look at the DOM and whatever else comes up.

RAFFLE. Every month we have a raffle to help defer the rental cost of our meeting hall. A typical raffle will have programs, blank disks, books, bumper stickers and all sorts of odds and ends of interest to the T.I. user. This month we have some Tandy Model 4 computers.

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ARTICLES. I am always looking for articles for this newsletter, anything which interest you will probably interest other members of the T.I. community, so please share your ideas and opinions with all of us.

DISK LIBRARY. The disk library is at all meetings. We have copies of all disks in the library and they are available to members for just $1.00 for each disk unless otherwise specified. You can order them through the mail, please add $1.00 for the first disk and $.40 for each additional disk ordered to cover postage and handling.

DISK OF THE MONTH. This month's DOM #141 is a disk GPL disk of T.I. programs: Household Budget Management, Tax and Investment Recordkeeping and Personal Real Estate.

ADVENTURE II. This is our fund-raiser for 1994/95. The cost to members is $4.00 add $2.00 for first class postage. The regular price is $6.95 plus postage. This is a two DSSD disk set, archived. There is also a special on The Adventure Compendium and Adventure II for members it is $8.00 plus $3.00 for first class postage.

FOR SALE. Former member Dennis Lavoie has two complete systems and lots of cartridges and software for sale. He wants to sell everything together. If you are interested contact Jim Cox at the number above and he will give you more information.

WELCOME NEW MEMBER. H. T. Kipling of Fort Wayne, In.

Looking Back

by Bill Gaskill via Lima 99 UG, Oct '94

Modules We Never Saw

We'll never know the great software that might have been produced for the 99/4A and 99/8 had TI decided to stay in the home computer market. I have little doubt there would be many powerful applications available to us that would be at least as good as those available to the Commodore 64 and 128 owners. Most would probably be better, since we had a better machine to start with.

Even without that conjecture, we know several programs were in the advanced planning and production stages that were not released after TI's announcement. Major software companies like Imagic, Walt Disney, and even TI had game and education modules planned for the 99/4A we never saw. We know that they were planned, because working copies of the code exist. Several of the programs were all but complete and had such extensive code they can be run out of one of the Gram devices like GramKracker. Here's a list of the programs I have actually seen up and running.

WingWars

Imagic, a fantasy type adventure with superb graphics along the line of Super Demon Attack. You are the central character in the adventure and you fly around the caves, caverns and battlefields on you winged horse, spitting out some type of fireball from the horse's mouth to defend yourself.

E.T. and His Adventure at Sea

Looking Glass - an educational game that uses a map of the world (which has superb detail) as a base. You must pilot your boat, in which E.T. is a passenger, around the world, trying to get him to the secret landing site where a spaceship will come to take him home. All the while there is lightning, typhoons, and other hazards you must avoid.

Vondrakes Molecular Mission

Walt Disney Studios - one of the neatest educational games I have EVER seen. It has to be geared at the teen to adult age group though, because it teaches you, in a most entertaining fashion, chemical formulas for basic compounds and the like. It doesn't appear to be something my 10 year old could conquer.

Plant Genetics

Texas Instruments - This one is strictly for educational use. It is copyrighted 1984 by Texas Instruments, so I guess that's why it never came to market. WHAT A SHAME! Although it is mostly text, the program is just SUPERB!!! It is like going through the encyclopedia for information on the topic, only it's all here in one place, instead of having to do the research on it. If we could only convince TI to go back and make modules like this one again. Before seeing it in the flesh, I had never heard of this program. If this is a sample of what TI had in the works for future educational stuff then we really lost out when the 99/4A was orphaned. The program contains three different levels of learning on the topic and it covers them in a simple understandable manner. I learned more about heredity, dominant and recessive traits, phenotypes and genotypes in the few minutes I spent with the program than all of the years I spent in school and college. Neat program!

An Electronic Bookshelf

by Charles Good - Lima UG

I have access to a large on line library of books which I can download from an information system. I am volunteering to convert any of these books to an on disk format readable on screen and printable from a basic 99/4A with a disk system and 40 column display. After I convert these PC files the text is nicely formatted in 80 columns and contains no control codes. Files are between 200-300 sectors in length, and thus cannot be loaded into most TI word processors. This should cause no problems, because you don't want to manipulate these files. All you want to do is view them on screen, print them on your printer and perhaps search for specific strings. You can use either DSKU or DM1000, or Funnelweb's Disk Review to do these things with 200-300 sector text files. Viewing these files is best if you have an 80 column screen. However since the text is displayed on screen double spaced, this makes easy reading an 80 column line on a 40 column in which the left half of each screen wraps around to a second screen line. Each original line shows up on screen as a double line of text with a blank line before the next double line of text.

I have already downloaded and converted all the Sherlock Holmes stories by Arthur Conan Doyle. The entire series of 56 short stories and 4 books fills 27 DSSD disks unarchived and ready to read (disks 891-918 in the Lima software library).

Members of the Lima User Group can request anything from the following list. I will download and converted the requested titles to DV80 files. The Holy Bible and Sherlock Holmes stories have already been done. The conversion process takes some time, so be patient. Send your list of requested titles to me at the group post office or internet address. The following titles are available. Everything is in the public domain.

1. Aesop: Fables, Paperback Edition
2. Aesop: Fables, Townsend Translation
3. Albert Hoffman: Problem Child
4. Ambrose Bierce: Can Such Things Be
5. Ambrose Bierce: The Devil's Dictionary
6. Andrew Dickson White: Warfare of Science with Theology
7. Anglican: Book of Common Prayer
8. Anthony Hope: The Prisoner of Zenda
9. Anthony Trollope: Ayala's Angel
10. Artephius: The Secret Book (Alchemy)
11. Baroness Orczy: The Scarlet Pimpernel
12. Beowulf (F.B. Gummere Translation)
13. Bible: Eberfelder Ubersetzung Bibel/
14. Bible: Holy Bible/
15. Booker T. Washington: Up From Slavery
16. Bram Stoker: Dracula
17. Brendan P. Kehoe: Zen and the Art of the Internet
18. CIA: Psychological Operations in Guerill. Warfare
19. CIA: World Fact Book 1990
20. CIA: World Fact Book 1991
21. CIA: World Fact Book 1992
22. Carl Sandburg: Chicago Poems
23. Chaos Industries: The Big Book of Mischie v1.3
24. Charles Darwin: The Voyage of the Beagle
25. Charles Dickens: A Christmas Carol

Line 135 is a duplicate of line 136. After a while you
learn some time saving tips to make programming in XBasic
easier. Edit line 130 all you want. To get back to where
you started from, simply type 135 <FCTN>X (Down Arrow) and
then <ENTER>, <FCTN>8 (REDO) to put you back at the
beginning of the line and type over 135 changing it to 130
and then <ENTER> and your line 130 DATA is restored. If
you are going to use funny stuff for letters, such as
leading spaces, enclose the 26 character DATA on line 130
in quotes.

How the program runs:

Type RUN<ENTER>. The screen clears. Type anything to be
coded. The input appears at the top of the screen and the
coded output appears at the bottom half of the screen. In
the simple case of A through Z being reversed, simply
typing the coded message back in will decode it.
Unfortunately, in most cases, you will have to activate a
complementary DATA statement to decode the message. Let's
comment out line 135 by making line 135 read 135 !DATA...
(This is for comparing)->abcdefghijklmnopqrstuvwxyz
A new DATA line 136 DATA AYBWCUDSEQFOGMHKIZXVTRPJLN is
installed line 137 DATA ACEGIKMOQXPYNZLWJVHUFTDSBR will
decode any transposition created by line 136. Leave all
the DATA lines in the program in pairs. Line 137 would be
activated to decode lines encoded by line 136. With line
136 active, typing an A will return an A, so the first
DATA character of line 137 is A. Typing a B with line 136
produces a Y as code, so to get your B back when typing a
Y, you need to have a B in the 25th position of the DATA
in line 137.

With a little more work, we could make the
program automatically code and decode and display both
from a single DATA key. For now, we will settle for a
letter transposition coder that works because this
newsletter is getting close to deadline.

```
*********************************
*    Excerpts From TI-ECHO    *
*********************************
```

To encourage people to use the modem, here is
some TI chit-chat to whet your appetite.

#93 04 Nov 94 12:04:07 [5]
From: Scott Stasiowski
To: Frank Hargrove
Subj: Re: DEZIPper

FH> SS>   (1) Why should they make one when you can get
a IBM XT and FH> use what FH> Ok, fine, but what about
those of us who can't afford to go FH> out and spend a
minimum of $500-800 for a system that will barely do
FH> what one can do without spending so much $$$$$$$.

   Frank, I just got back from a Ham Radio fest and saw a
few different setups. (1) 386SX 40 meg SVGA monitor 640k
for $199.00 and (2) 286 25mhz green screen 512k memory 1.2
1.44 20 meg for $175.00 and (3) XT 8088 (I think) two 360k
floppies 40 meg mfm hard drive for $125.00.
Pretty sick eh!
   What did I buy? a $3.00 speech for the TI grin.....

* SFEMB 0.42α [?] * SFEMB: *THE* online message reader for
SpitFire!
--- FreeMail 1.10 alpha-3
 * Origin: GC.BBS (414)284-6108 <TI-99/4A><Geneve><S&T
BBS> (1:154/284)

* Origin: -9640 News BBS- MidSouth 99'er BBS
1-901-368-0112 (1:123/50)
#96 07 Nov 94 14:57:00 [4]
From: Harold Mayo
To: Frank Hargrove
Subj: Clones
Frank,
I guess I am going to have to get a - gasp,choke - a clone
of some sort for the 15 year old so he can keep up with
his computer class at school. That would be the only
reason for me to take such a drastic step.. I would not do
so for any other reason, other than for resale! If, or
when, this happens, I will try to appeal to his good
graces and see if he will devote a little time
to helping us out.
* Via THEM ORPHANAGE BBS in beautiful downtown Sperry.
Back on-line and still going strong. Now using US Robotics
Sportster 14.400 modem.

#105 13 Nov 94 14:07:27 [3]
From: Erwin Enders
To: Frank Hargrove
Is Reply To #57
Subj: re: DEZIPper
The Dezip 1.10 and 1.10b (a couple of bugs were fixed from
1.10) are the registered versions. It is one of the few
programs I considered worth sending the $$ to register it.
Then somebody in th MSDOS world had to come up with
PKZip 2.04g. More Details Later.
--- ConfMail V4.00
 * Origin: MDC/RCC Fido's 'PUP' (314-830-2272) (1:100/210)
#107 13 Nov 94 14:30:34 [3]
From: Erwin Enders
To: Harold Hoyt
Is Reply To #82
Subj: re: Honorees at Chicago this year
I vote for Charles Good of the Lima Group. Their group
provides more services than any other group that I am
aware of. It also looks like he does most of the work. My
second choice is for Bud Mills and Mike Maksimik for the
soon(?) to be complpleted SCSI controller card. More
Details Later.

#119 15 Nov 94 09:38:00 [3]
From: Harold Mayo
To: All
Subj: TI Faire
SEX SEX SEX!!!!
now that I have your attention, if you didn't, or couldn't
attend the Chicago/Milwaukee TI Faire, you indeed missed a
real fun time, especially if you were looking for
bargains. This was my first time, but it won't be the
last!!! This old Okie had a blast at the Fair, getting to
put faces with names and seeing what was new and what was
not!! CONGRATULATIONS to Tim Tesch for winning the John
Birdwell Award for his excellent work in assembly for the
TI/Geneve world.
*Via THE ORPHANAGE BBS in beautiful downtown Sperry. The
only (?) 100% TI/Geneve BBS in Okla. Now using US
Robootics 14.4 Sportster.
... When your computer has a virus, Don't use chicken
soup!--- FEb141b7

```
###################################
#  Jack Armstrong To the Rescue!  #
#              by                 #
#       Harold C. Hoyt Jr.        #
###################################
```

Charlotte has been hooked on Hardy Boy Mysteries. She has read over 250 of them. After I downloaded the public library list of Hardy boy mysteries and printing it out, Charlotte systematically read and checked off every one they had. If that wasn't enough, she went on a search and found a bunch more from other sources.

her interest in the Hardy Boys seems to be finally petering out, like her earlier interest in the Teen Age Mutant Ninja Turtles, but now she shows an interest in Goosebumps, a series of scary stories well suited for her age group. She seems to have developed a permanent interest in detective and spy stories. The other day, she was filling up piles of papers with substitution codes for encoding and decoding secret messages like the Jack Armstrong secret decoder ring we had as kids.

You saved three box tops from ?Was it Wheaties? No, some other cereal and mailed it in with some small change and waited what seemed like forever for it to come in the mail. With the ring, you could decode the secret message broadcast at the end of each weeknight program. Each message had something to do with the continuing adventures of Jack Armstrong. There were a whole bunch of adventure programs on radio aimed for kids. The Green Hornet, Mr. District Attorney, Inner Sanctum, Mr. Keen, Tracer of Lost Persons, The Shadow sponsored by Blue Coal.

When viewing the junk for kids on TV, my selective memory says, "Boy, radio was better". As an adult, I've listened to some nostalgic old radio recordings and will have to amend my colored childhood memories to state that SOME of radio was better. I was a grownup and cried when NBC radio introduced their new format "Monitor radio" and all the series were gone, canceled, vaporized. We were usually in the car going somewhere when The Shadow came on. In one hour, the crime was committed and solved by Lamont Cranston and his beautiful Fiance, Margo Lane. Who knows what evil lurks in the hearts of men? The Shadow Knows! Heh, Heh, heh.

Many of the TI community have had a hand at encryption codes and it's good clean fun. Dr. Roy Tamashiro and Tigercub Jim Peterson pop into mind. You can make a substitution code that is a real dog to break if you don't have a 99/4A just using the pseudo random pattern generator in XBasic. What makes it miserable is that the patterns don't repeat for a long time so what you use for the letter E for instance keeps changing. With a long message and straight kid stuff substitution just count which character occurs the most often and that is probably E since the letter E is used more often than any other in the English language. Did you notice that the phrases are getting more difficult in Wheel of Fortune? Guessing an E for a vowel is no longer safe.

Without some clue, there is 26!-1 possible ways to rearrange letters for substitution. You can have any letter A through Z for the first letter that corresponds to your A that is to be encoded. Each of these sub groups is in turn divided into 25 sub sub groups. If A is the first letter then any of 25 letters B through Z can be second. A third layer of 24 letters fans out from each of the 25 sub groups. A total of 26! combinations is possible. The -1 comes from excluding the one arrangement

where none of the letters are changed. It gets messier if you change some of the coded symbols to lower case. You could mix in a few numbers with letters and interchange a letter randomly for some of the space characters so your adversary doesn't have a clue how long a word is. That ought to confuse the bad guys. It's been a while, but finally got a little of my XBasic back. How quick you lose it if you don't use it!

```
1 !SAVE DSK1.CODE
100 !Prog H. Hoyt Jr.12/7/94
110 !Letter Substitution cod
es for Charlotte
120 DIM X$(26)
130 DATA ZYXWVUTSRQPONMLKJIH
GFEDCBA
135 DATA ZYXWVUTSRQPONMLKJIH
GFEDCBA
140 READ X$(0):: FOR I=1 TO
26 :: X$(I)=SEG$(X$(0),I,1):
: NEXT I :: CALL CLEAR
145 R,C=3
150 CALL KEY(3,K,S):: IF S<1
 THEN 150
160 IF K=32 OR(K>64)*(K<91)T
HEN 170 ELSE 150
170 CALL HCHAR(R,C,K):: IF K
>64 THEN CALL HCHAR(R+12,C,A
SC(X$(K-64)))ELSE CALL HCHAR
(R+12,C,32)
180 C=C+1 :: IF C>29 THEN R=
R+1 :: C=3
190 IF R>10 THEN C,R=3 :: CA
LL CLEAR
200 GOTO 150
```

The above XBasic program allows you to type in text starting on Row 3, Column 3, filling up about a half screen page before clearing itself and starting over. As written, you will have to type <FCTN>4 to break out. It would be easy to rewrite line 190 to display CONTINUE?(Y/n) for a clean exit. Like the teachers used to say, "Let's leave some of the fun for the reader.

The above program was first written and tested using the Swartz v5.01 TIEMULATOR! on a 486 and then tested again on a real TI-99/4A. A Terminate and Stay Resident (TSR) PRINDIR v8.02 program was used to intercept and redirect a request to LIST"PIO" from inside the XBasic simulation of the working CODE program. The listing was redirected to a DOS text file which was then EDITed to remove a few kinks due to the way the 4A lists programs. All programs are listed with a maximum of 80 characters per line. Any line longer than 80 characters overflows on to the next line, even if it cuts a command in half. The text was further EDITed to make the maximum line length 28 characters, which is the way it is displayed on screen.

Type in the program, it really isn't very long. Here is how it works: Line 120 reserves 27 spaces for X$. Remember, 0 is a number too! Line 130 has 26 ASCII characters read in as one String into X$(0). Then each of the characters are read from X$(0) into X$(I) one character at a time. One of Charlottes' choice of substitution was to reverse the letters. A becomes Z, B becomes Y etc.

You must do this even if no program is in memory. To save a file in MERGE format, type:

SAVE DSKn.name, MERGE - works in XB only.

```
DIS/FIX 80 FILES (D/F 80)
```

Use EDITOR ASSEMBLER MODULE, LAR or FUNNELWEB to load these. Some files will auto load and/or auto start. Use LOAD and RUN option #3. Type:

DSKn.name (enter)

If the program does not run but asks for a second file name, you must do #1 and #2 or just #2 below.

#1 If there are multi files for the program, type:

DSKn.name (enter) for each file.

#2 Then press enter. If the program does not start, enter the program name. The program name could be START, BEGIN, GAME, LOAD, RUN, FIRST, etc. FUNNELWEB will give you a list of names found in the program.

```
DIS/FIX 128 FILES (D/F 128)
```

These are usually ARCHIVED files. You must unarchive these files before you can run them. Use ARC303 or ARC303G.

```
INT/VAR 254 FILES (I/V 254)
```

These files usually have more than 45 sectors and are XB requiring memory expansion. They do not require CALL FILES (1). BASIC cannot be used. The same commands are used such as RUN or OLD DSKn.name. The programs are usually so long that they cannot be saved to tape. (SAVE CS1)

```
DATA FILES
```

Files such as INT/FIX 108, INT/VAR 128, INT/VAR 64 and some program files are data files that can be used by a program on the disk. They will not RUN and should be left on the disk with the other programs.

QUICK REFERENCE CHART
BY JERRY KEISLER

TYPE	SIZE	TRY...
PG	----	EXTENDED BASIC, BASIC, EDITOR/ASSEMBL
PG	33	EDITOR/ASSEMBLER 5, BOOT, FUNNELWEB
PG	34	GROM SIMULATOR
PG	52	TUNNELS OF DOOM MODULE
PG	54	ADVENTURE MODULE
DV80	----	TI WRITER, FUNNELWEB
DV163	----	EXTENDED BASIC MERGE FORMAT
DF80	----	EDITOR/ASSEMBLER 3
DF128	----	ARCHIVER
IV245	----	EXTENDED BASIC
IV254	----	EXTENDED BASIC
ANY?	----	DATA

TI-ARTIST FILES

ENDS WITH	TYPE	DESCRIPTION
_C	PG25	PICTURES / COLOR FILE
_F	DV80	CHARACTER FONT FILE
_I	DV80	INSTANCE FILE
_M	DV254	MOVIE FILE
_P	PG25	PICTURES / PATTERN FILE
_S	DV80	SLIDES FILE
_V	DF12	VECTORS FILE

TI-BASE FILES

ENDS WITH	TYPE	DESCRIPTION
/C	DV80	COMMAND FILE
/C	IF40	COMMAND FILE
/D	IF--	DATA BASE DATA FILE
/H	DV80	HELP FILE
/P	IF255	PROGRAM FILE
/S	IF255	DATA BASE STRUCTURE FILE

4

HOW TO ACCESS / FILES

BY JERRY KEISLER

I have been asked by several members how to run some of the programs on our DOM. The following is a list of what you may find in your disk directory and how to run it.

If your disk has a LOAD file, it may run all the files on the disk regardless of type.

PROGRAM FILES (PG)

There are several options for running these files.

EXTENDED BASIC (XB)

Will load and run automatically when you select XB and the disk is in drive #1, if it has a LOAD file. Or can be run by typing:

RUN (enter) or RUN "DSK1.name" (enter)

If the program loads correctly but you get a BAD VALUE error when it runs, you need to load the program into BASIC (no CHARS above 143 are allowed in XB). If the program file is more than 45 sectors and won't load, you have to open up more memory. Do this by typing:

CALL FILES(1) (enter)
NEW   (enter)
OLD DSKn.name (enter)
RUN   (enter)

BASIC

Programs need to be loaded by typing:

OLD DSKn.name (enter)
RUN   (enter)

Most BASIC programs will load and run in XB but not vice-versa. If you get a FOR-NEXT error in line xxx and when you edit the line you get a lot of nonsense, the program is written in XB. The same is true if the sectors are greater than 45. More space is needed in the computer. See CALL FILES above. If you still get a memory full and tried XB then most likely it can be run on tape (OLD CS1) without the expansion box turned on.

EDITOR ASSEMBLER (EA)

If a program file will not load and run in BASIC or XB and gives an I/O ERROR 50, it may be an assembly language program. These can be run using BOOT, the Editor Assembler module option #5 with DSKn.name or FUNNELWEB'S RUN option of Disk Review. These program files are listed in consecutive order such as MASS, MAST, MASU or UTIL1, UTIL2, UTIL3. The files will normally have 33 sectors.

GRAMULATOR

These require a GROM simulator card or box. The files contain 34 sectors and have the same name with the numbers 1 through 66 attached to files 2 through 8. Follow your GROM simulator instructions to load and run.

OTHER PROGRAM FILES

Some specialized program files can only be loaded from a special module such as ADVENTURE (54 sectors), PERSONAL RECORD KEEPING, STATISTICS, TUNNELS OF DOOM (52 sectors).

DIS/VAR 80 FILES (D/V 80)

These are usually text or documentation files (DOCS, READ-ME, ETC.). They are instructions on how to run programs on the disk. Read or print them using TI Writer, FUNNELWEB, BOOT or the (V, T or P) option of several disk managers.

DIS/VAR 163 FILES (D/V 163)

This is an XB file in MERGE format. It can be merged into a program already in computer memory. Type:

MERGE DSKn.name (enter)

PLAYING WITH NUMBERS #12
(cont)

technique for navigating and mapping the seeming chaos of a universe of confusing large numbers. Like space probes we launch the fragile fingers of limitless series in search of background structure and "black holes". As a hobby-game it becomes addictive.

If even a small network of such addicts could be induced to participate we might emulate, on a less ambitious scale, the method used by Drs. Manasse of Palo Alto and Lenstra of Chicago. They found the two large factors of a 100-digit number by breaking the factoring process into segments assigned to four hundred fellows around the world. With each working only a short time on any smaller computer available they got the results that would have required a supercomputer to run day and night through perhaps a million dollars of time.

As a number probe the series $N=(10^Y+1)$ reveals some peculiarities. N is prime for Y=1 or 2 which gives N the values 11 or 101. If Y is odd the number of digits in N is even and, however great its magnitude, it is composite with least factor 11. For N to be prime, Y must be even and the number of digits odd.

Is 2 the only even value for Y which makes N a prime number? 101 is a factor of every N for which Y=2+4M=2,6,10,14... For Y=4, N=73x137 which are factors of all N with Y=4+8M=4,12,20,28... In this manner the mesh of the sieve of composites closes up and leaves "holes" only for $Y=2^X$, a power of 2.

This does not mean that N is prime if Y is a power of 2. It means that no element of this series can be prime unless Y is a power of 2. But N is composite for Y=4,8,16,32. Therefore at this point, in this review, the possible primality of (10^Y+1) is restricted to the series Y=64, 128, 256, 512, 1024, 2048..... which we have not yet attempted to factor or prove primality.

In the case of repunit series N=R(Y), N can be prime only for prime values of Y. At this point no prime in this series is known for Y greater than 1031.

We close this session with a small start on a large collection of limitless series and sets of discovered primes. More will follow for the sake of those who enjoy finding new species of rock and crystal formation and want to know what has already been found.

SERIES $N=(10^Y-7)/3$

```
Y......N
1......1
2......31=PRIME
3......331=PRIME
4......3331=PRIME
5......33331=PRIME
6......333331=PRIME
7......3333331=PRIME
8......33333331=PRIME
9......333333331=17x19607843
```

SERIES $N=(2x10^Y+1)/3$

```
Y......N
1......7=PRIME
2......67=PRIME
6......666667=PRIME
8......66666667=PRIME
9......666666667=PRIME
11.....66666666667=PRIME
```

SERIES $N=(5x10^Y+1)/3$

```
Y......N
0......2=PRIME
1......17=PRIME
2......167=PRIME
3......1667=PRIME
5......166667=PRIME
9......1666666667=PRIME
11.....166666666667=PRIME
```

```
1112345678900098765432111
1                         1
1 PLAYING WITH NUMBERS 1
0         No 12          0
9   By Meredith Beyers   9
9                         9
99987654321001234567899
```

EXPLORING FOR PRIMES
Of Limitless Series:

Over emphasis of Primes has created an aura of chaos that clouds our view of the universe of generated composite numbers. We also pointed out that "patterns" in successive primes are of doubtful value in defining the laws of small numbers. Such patterns have not enabled us to make predictions as we do with the prime factors of composite numbers.

However, both primes and composites are of equal importance in exploring the numerical universe. So it is high time we provided some data from work done and ongoing in uncovering prime members of some limitless series.

$(10 \; S \; Y \; T-1) \times 10 \; S \; 1 \; T+1 = (10 \; S \; (Y+1) \; T-9) = PRIME$
for Y=2,4,6...? (Y+1)=3,5,7...?
$(10 \; S \; 3 \; T-9)$= G991=prime T
$(10 \; S \; 5 \; T-9)$= G99991=prime T
$(10 \; S \; 7 \; T-9)$= G9999991=prime T

Are there any more?

Composites may be identified by uniform incrementation of powers based on the number of digits in the reciprocal repetends of least factors as they occur in factoring.

For example: $(10 \; S \; 2 \; T-9)$=91=7x13

7 and 13 are also factors of $(10 \; S \; Y \; T-9)$ for all Y=2+6M, M=1,2,3..... This means 2+6+6+6..... without end.

Thus we may start constructing a limitless extension of the sieve of Eratosthenes for any such series as we do for this:

FACTORS OF $(10 \; S \; Y \; T-9)$:
```
07 for Y=2+6M  = 2,8,14,20,26,32...
13 for Y=2+6M  = ....ditto.........
17 for Y=6+16M = 6,22,38,54,70.....
19 for Y=10+18M= 10,28,46,64.......
23 for Y=17+22M= 39,61,83,105......
31 for Y=12+15M= 12,27,39,51,63....
43 for Y=17+21M= 17,38,55,72,89....
and so on.....
```

Please note the meanings in this table. $(10 \; S \; Y \; T-9)$ is the limitless series with Y=1,2,3..... without end. The factors in the first column are also predicted as factors of every member of the series beginning with the value for Y where they were first found, the number between "=" and "+"). Every other value for Y is obtained by incrementaton.

This is expressed as adding the increment multiplied by M=1,2,3... The increment is the period or "wave length" of the number of digits in the reciprocal repetend of the factor and the successive values for Y are obtained by the operation Y+D+D+D... for as far as we want to check the validity of the predicted factors.

Projection of all the values for Y in a table will identify by small factors the composites that may be eliminated in a search for larger primes.

$(10 \; S \; Y \; T-1)/9=R(Y)=11111...(Y$ ones) is the limitless series of repunit numbers. When we started this project it was known that decimal R(Y) is prime for Y=2, 19 and 23. It was not known whether there are a limitless number of such primes, or any primes at all beyond Y=23. Not until 1991 were we informed that since then R(317) and R(1031) have been identified as prime.

A reminder: the factoring mate of R(Y) is $(10 \; S \; Y \; T+1)$ and the product of these two is $R(2Y) = (10 \; S \; 2Y \; T-1)/9$. The factors of $(10 \; S \; Y \; T+1)$ are also factors of $(10 \; S \; 3Y \; T+1)$ as well as R(6Y), $(10 \; S \; 9 \; T+1$ R(12Y), R(24Y),$(10 \; S \; 27 \; T+1)$, and so on... Thus the propagation of factors in mated series accelerates the identification of large composite numbers. The systematic factoring of composites becomes a