TI - D - BITS

MERRY CHRISTMAS

FOUR LETTER WORDS
(Well Almost)

By James D. Lanman

Taken from READING-BERKS Newsletter of Nov/Dec 1993

There are several standards for hard drives: SCSI,MFM, and IDE are the ones which TI-99/4A users are most interested in using. In the TI community, there is room for all of them. However, most of us will be hard pressed to afford a controller card and hard drive for our system. Each standard has its advantages and disadvantages which this article will address. TI-99/4A users have a difficult choice in picking a standard. The following information should help.

SCSI (Small Computer System Interface - pronounced "skuzzy") is the latest standard to come to the TI. And there is nothing small about SCSI since it is used in many systems ranging from super computers to TI-99/4A's. The SCSI card is available from Western Horizon Technologies. It can use any combination of up to 8 devices. SCSI isn't limited to just hard and floppy disk drives. The SCSI card with additional software drivers many be able to use CDROM drives, scanners, megneto-optical drives, and laser printers. Only time, money, and interest from TI'ers will determine if we see software drivers for these other devices. This card also has PC transfer capability and RAMBO/4A MEMEX compatibility. As for SCSI hard drives, they can be found used or refurbished at relatively low

cost ($100-$200) in 20, 40, and 80 MB sizes in 5 1/4" or 3 1/2" formats. They may be a little hard to find, so check out the latest "Computer shopper" magazine for where to buy and pricing information. The magazine can be purchased at most large bookstores and some computer retailers like COMPUSA. The ONLY drawback to the WHT SCSI card is that it can use only SCSI floppy drives. They are three to four times as expensive as conventional floppy drives, and they are much harder to find. (Editor's note: Not only are they hard to find, but when I was checking on getting a 486 last winter I discovered that dealers apparently do not know that SCSI floppies exist since I was informed that any floppy would work on a SCSI setup by several PC dealers.) If you choose the SCSI card, then keep your current floppy drives and controller. Use the SCSI for your hard drive and other devices. Unless you have deep pockets and can afford some SCSI floppy drives. Despite this limitation, SCSI is the future of the TI.

MFM (Modified Frequency Modulation) is the standard utilized by conventional floppy drives and older hard drives. And there is an extension to this standard known as RLL (Run Length Limited) which squeezes about 50% more data on the disk. While it is possible to use an RLL drive as an MFM drive, you cannot reliably use an MFM drive as an RLL drive. MFM is an older standard which is now an orphan just like the TI. Hard drives can be found used or refurbished at relatively low cost ($50-$200) in 20, 40, and 80 MB sizes in either 5-1/4" or 3-1/2" formats. There is still life left in this standard. The HFDC card

originally from Myarc will soon be reissued by Cecure Electronics. They also offer repairs and upgrades of Myarc products at a reasonable cost. If you have an older HFDC card, you should check to see if you have a 32K SRAM. M11 EPROM (Note: The "M11" on my copy was smeared and therefore may not be correct.), and 9216B chip. If you only have an 8K SRAM and 9216 chip, get them replaced. Check with Cecure Electronics on upgrading your HFDC. As well as upgrading the HFDC, a new disk manager will soon be available called Uni-Manager. It is from Crystal Software. This new disk manager will support backup tape drives and a host of other features. MDM5 (Myarc's disk manager) will be a thing of the past by comparison. Crcure Electronics may even have a new DSR (Device Service Routine) written.

With an upgrade HFDC, disk manager, and new DSR EPROM we may finally get to use 1.44MB floppy drives at full capacity. If you already have an HFDC or are getting one, there is light at the end of the tunnel!

Finally, we come to IDE (Integrated Drive Electronics). This is a very popular standard in the PC community. Drives are easy to find and are relatively inexpensive. If all you want is to add an hard drive to your TI this would be the best way to go. Unfortunately, an IDE controller only exists as a prototype. And it is unlikely that it will ever go into production. An IDE controller card would use conventional floppy drives just like the HFDC does using DMA (Direct Memory Access) scheme. IDE, for now is just a dream for TI-99/4A users.

Whichever standard you choose, I hope this article will make that choice easier. Let me know what you think about this article at the meeting. The next one will be a "short" SCSI primer.

****

MULTIPRINT OUTPUTS MULTIPLE COPIES

By John H. Bull

**K-Town 99ers Newsletter
Knoxville, TN**

Each year I have the chore of providing tally cards for a bridge club - 3x5 index cards that show the table and partner for each round for each of eight players. Eight players x 4 parties x 8 months equals 256 cards. As I said, it is a chore.

There are eight different cards and we need 32 copies of each. some years ago I made a D/V80 file for each card, with printer codes for my NX1000. Now I load each file with TI-Writer, insert a card in the printer, press F9, then do it again. It takes six key presses for each file for the next card, and I have to keep count up to 32 and I keep losing count and have to count the pile of cards manually. The job takes about three hours. there must be an easier way!

The following program saved me about an hour. I still have to insert each index card into the printer, but the program counts them for me and it takes only one key press <ENTER> per copy.

```
100 ! PRINT MULTIPLE COPIES
110 ! FROM D/V80 FILES
```

```
120 CALL CLEAR
130 DISPLAY AT(2,1):"Put pri
nter on line and    insert
card or paper."
140 OPEN #1:"PIO" :: S=0
150 DISPLAY AT(5,1):"FILES?"
&FN$:TAB(13);or Q to quit."
:: ACCEPT AT(5,7)SIZE(-15):F
N$
160 IF FN$="Q" THEN CLOSE #1
:: STOP :: ELSE IF S=0 THEN
180
170 IF FN$=PF$ THEN 190 ELSE
CLOSE #2
180 OPEN #2:FN$ :: C=0 :: S=
1
190 C=C+1 :: DISPLAY AT(20,1
0):"COUNT="&STR$(C):: PF$=FN
$
200 FOR I=1 TO 60 :: LINPUT
#2:A$ :: IF EOF(2)THEN RESTO
RE #2 :: GOTO 150
210 PRINT #1:A$ :: NEXT I ::
RESTORE #2 :: GOTO 150
```

HERE'S HOW IT WORKS:

You type the filename for the first card, press <ENTER>, only once for each copy. You enter a new filename for each card. In my case, that means changing just one digit in the filename - DSK1.TALLY/1, DSK1.TALLY/2, etc.

This program will work with any text files and printer codes but not with formater codes. It is designed to print one page or less, but longer documents can be printed by increasing the "60" lines to "200" in line 200 and putting the appropriate page feed codes in the file.

How about making copies with a copier? Well, I don't have one handy. Also, my experience is that most copiers don't handle 3x5 cards as well as my printer.

****

TRANSLITERATER

By Jim Peterson

We all know that the TI-Writer Formatter insists on giving us five blank lines at the top of the page and three at the bottom. If your printer supports a reverse line feed, you can back those lines at the top by beginning the page with a line **CTRL-U** and **RJRJRJRJRJ**; but I can't find a practical way to print the three lines at the bottom. I wanted to use at the formatter's **.TL** commands to print out a form 66 lines long, so I wrote this little program. It reads the .TL commands and interprets them just as the formatter does, although somewhat more slowly.

```
100 DISPLAY AT(3,5)ERASE ALL
:"TRANSLITERATER" :: OPEN #2
:"PIO",VARIABLE 254
110 DISPLAY AT(12,1):"Filena
me? DSK" :: ACCEPT AT(12,14)
BEEP:F$ :: OPEN #1:"DSK"&F$,
INPUT :: F=0
120 DISPLAY AT(14,1):"How ma
ny lines per page? 66" :: AC
CEPT AT(14,26)SIZE(-2)BEEP:L
130 DISPLAY AT(16,1):"How ma
ny copies? 1" :: ACCEPT AT(1
6,18)SIZE(-2)BEEP:H
140 FOR K=1 TO H :: C=0 :: R
ESTORE #1
150 LINPUT #1:M$ :: IF SEG$(
M$,1,4)<>".TL " THEN 180 ELS
E IF SEG$(M$,1,4)=".TL " AND
 F-1 THEN 150
160 M$=SEG$(M$,5,255):: P=PO
S(M$,":",1):: X=X+1 :: A$(X)
=CHR$(VAL(SEG$(M$,1,P-1))):: 
M$=SEG$(M$,P+1,255)&","
170 P=POS(M$,",",1):: B$(X)=
B$(X)&CHR$(VAL(SEG$(M$,1,P-1
))):: M$=SEG$(M$,P+1,255)::
IF LEN(M$)>0 THEN 170 ELSE 1
50
180 IF ASC(M$)>127 THEN 220
190 FOR J=1 TO X
200 P=POS(M$,A$(J),1):: IF P
<>0 THEN M$=SEG$(M$,1,P-1)&B
$(J)&SEG$(M$,P+1,255):: GOTO
```

```
200
210 NEXT J :: PRINT #2:M$ ::
 C=C+1 :: IF C=L AND EOF(1)<
>1 THEN PRINT #2:CHR$(12)::
C=0 :: GOTO 150 ELSE IF EOF(
1)<>1 THEN 150
220 PRINT #2:CHR$(12):: F=1
:: NEXT K :: CLOSE #1 :: GOT
O 110
```

****

HIGHLIGHTING

By Earl Raguse

Taken from MICROpendium
Sept. Issue

I saw a demonstration that allowed one to switch the foreground colors of certain characters to make them stand out from others, like O vs 0, and 1 vs 1, or for trouble-shooting of bad typing, something I do well.

Aha, you say – I can do that with CALL COLOR.

True, but it's not permanent. I don't like having to embed trouble-shooting routines in my programs if there is an easier way.

The following program called HIGH-LIGHT makes permanent foreground/background color changes and can be controlled ON and OFF at will. Once executed, the program can be deleted with NEW before you start entering a new program. I sometimes put this in my LOAD program. It's easy to turn off if you don't want it. I found the basic program idea in the Tacoma 99ers Newsletter of December 1987; the article was by Joe Nolan, who credits Harry Wilhelm of the Twin TIers UG with the orginal idea. I don't have any idea how

much evolution has gone on, but I added my two cents also.

Lines 130 and 140 do all the work, and if you wish to transfer this effect to one of your own programs, that's all you need. The following tells you how you can change these lines to suit your needs. If you study it a bit, you can see the potential for other purposes.

In line 130,

(1)Change the eighth number, from the address, 17 to the number of the first character set you want to change PLUS 15. The current program is 15+2=17 for character set 2.

(2) Change the eighth number after that, 3, to the number of character set to change. The current program is 3 for character set 2, 3 and 4.

In line 140,

(1) Load a number(in this case 244)for each character set to be changed. That number is computed as (16*(16-1))+(5-1)=244.

(2) The effect is turned **ON** by **CALL LOAD(-31804,63)** and **OFF** by **CALL LOAD(-31804,0)**. This can be done either in a program or from the keyboard. I added the line 150 and 160 for ease control of the effect on or off. These can be deleted if not wanted.

THE PROGRAM:

```
100! SAVE DSK1.HIGHLIGHT
110! By Joe Nolan, Tacoma 9
9ers UG Newsletter Dec 87, O
riginal idea by Harry Wilhel
m of Twin TIers UG
120 ! Modified by E. Raguse
UGOC 1/87
130 CALL INIT :: CALL LOAD(1
6128,2,224,38,0,2,0,8,17,2,1
,63,36,2,2,0,3,4,32,32,36,2,
224,131,192,3,128)
140 CALL LOAD(16164,244,244,
244):: CALL LOAD(-31804,63)
150 PRINT "TURN IT OFF? PRES
S SPACE,    ELSE ANY"
160 CALL KEY(0,K,S):: IF S=0
 THEN 160 ELSE IF K<>32 THEN
END ELSE CALL LOAD(-31804,0
)
```

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MYTHS AND TRUTHS

Taken from MICROpendium

The West Penn 99ers printed a number of :Myths and Truths" about magnetic media in their newsletter. They were written by Keith Faulhner of the Lansing Area Commodore Club. Here's a sample:

MYTH

A small magnet such as the holder of a flashlight can damage tapes and diskettes some diskette away.

TRUTH

A one thousand oersted magnet capable of lifting 40 pounds, was brought to within one inch of a computer tape. No data loss resulted. At the range of 1/2 inch, the magnet effectively destroyed the data. The read-write head, virtually in contact with the media, has a field strength of 750 to 1,000 oersteds causes a loss of data, but one of 150 oersteds does not.

****

HAPPY HANUKKAH

OUR 4/A UNIVERSITY

by Jack Sughrue
Box 459
E.Douglas MA 01516

#5 McGUFFEY's

Before we spend a class on the TI textbooks I mentioned at the end of our last session, I'd like to mention McGUFFEY's ECLECTIC READERS from the 1890's. They were the major source of formal, academic learning for young scholars 100 years ago. Today's McGuffey is Don Shorock. Let's analyze a bit of Shorock's eclecticism of the 1990's.

Ms. Bronte, I already gave you his address in my notes three or four classes ago.

Very well. He can be reached for these educational goodies - mostly fairware (and let's hope I don't have to explain *that* again) at P.O.Box 501, Great Bend, KS 67530. Got that? Good. Now try not to interrupt with questions that have already been answered if you were paying attention during our other classes.

I'm going to be using the overhead for this lesson, as some of the intricacies of this educator's materials are fascinating and unusual.

Last session, Class, we had a couple questions from Mr. Shakespeare over there by the window. He said he had a nephew in junior high and two elementary school grandchildren. I think Mr. Shorock's eclectic disks will be of great help here.

First, let me mention that Mr. S has the most extraordinary data base structure built into his programs.

Second, let me put up the menu of his first disk on the overhead here. He has four educational fairware disks: EDUCATION #1, 2, 3, and INVENTIONS.

This is the first menu for #1:

a) AMERICAN PRESIDENTS
b) ENGLISH MONARCHS
c) ANCIENT GREEKS & ROMANS
d) JOYSTICK AMERICA
e) WORLD MILEAGE
f) STATES & CAPITALS (groups)
g) SOLAR SYSTEM
h) WORD MATH
i) GAGGLES OF GEESE
j) ESTIMATING TRIANGLES
k) FACTORING
l) AUDIO MATH
m) CATALOG
n) DOCUMENTATION
o) EXIT

There are 12 programs, plus a chance to look at the catalog from the disk, plus a chance to read all the documentation. By using the alphabet instead of numbers, he is able to have the menu items lined up perfectly (as "10" and beyond would push everything one character to the right). Very neat is our Mr. Shorock. If we pressed "a" for the President

program another menu appears, as you can see on this transparency:

    1) NAME YEAR
    2) NAME PARTY
    3) NAME PRESIDENT
    4) NAME STATE
    5) FOR QUIZ
    6) LEAVE (to go back to main menu, which is nice, and only "d" and "j"
are unable to within their activities)

    If, at this point, we press "1" and type in "1962" at the cursor, we
get the following:
    "Year #2 of the Presidency of John Kennedy; 35th President; Democrat
of Massachusetts; served 1961-1963."
    Typing "1963" would give both Kennedy and Johnson (who served from
1963 to 1969).
    Pressing "2" above will give you the listing of all the parties under
which our Presidents have served: 1) Federalist 2)Democratic-Republican
3) National Republican 4)Democratic 5)Whig 6)Republican. And choosing
"Whig," for example, will give you William Henry Harrison, 1841-1841;
John Tyler, 1841-1845; Zachary Taylor, 1849-1850; and Millard Fillmore,
1850-1853.
    When choosing NAME PRESIDENT and typing "John," you will get all the
Johns: Adams, Adams, Tyler, Kennedy with all their accompanying info.
So you can enter first OR last names and have the program seek out the
proper data for you.
    To enter STATE you must type in the full name, however, as the program
will not accept MA or MASS for MASSACHUSETTS. When you type that full
name, though, it will list its four Presidents and their biographical
sketches. Entering the name of a state with no President will give you
the cursor, just as typing in wrong info will.
    Now, when you have mastered this info, you will have the QUIZ (a
yes/no job): "Did Benjamin Harrison Rule in the year 1811? (No. His
term, as we all know, was from 1889-1893.) [I don't like RULED, however,
which is the reappearing term for SERVED that Mr. Shorock (probably a
native of England) keeps using: Did Ronald Reagan Rule in 1818? (No.
That's right, Class. Ronald Reagan RULED America from 1981 to 1989,
though he may have behaved as if he RULED America in 1818).] Actually, I
just listed the program and changed the RULE to SERVE, and it made the
program so much better in our Democracy. Particularly if this program
will be used with children.
    The English Monarchs and Ancient Greek and Roman programs are
structured similarly.
    I don't intend to go through each of his delightful program packages
for learners during our time today. Suffice it to say, Class, that you
can see the amount of work that goes into a program like this and, by
studying the program itself, the unlimited kinds of applications for
which one may use these programs.
    I would, however, like to delve into a couple of completely different
educational programs here. WORD MATH deals with addition, subtraction,
multiplication, and division as the bane of all elementary and junior
high students: Word Problems. The answers may be typed as "SEVENTEEN"
or "17," as in this problem: "Ellen has nine dandelions and Kent has
eight marigolds. How many flowers do Ellen and Kent have altogether?"
At the menu you may choose specific processes (addition) or all. A
running score is kept (as with most of Shorock's games and quizzes), and
a wrong answer is corrected and explained. At the end of this program a
flashy countdown in words from 100 to 1 takes place, using the TI's

built-in wonders, and more options are given, including continuing the game.

JOYSTICK AMERICA is a geography game. Kind of a precursor, in a philosophical way, to Mr. S's highly successful AIR TAXI, his commercial venture which is a geographical masterpiece. I understand, Class, that he has a further development on even that one. When you write to him, ask. But J.A. has a golf-like scoring system. You're given a par (how many moves it should take you) to go from a random starting point in America (say Western Tennessee) to a random destination (say Ohio or Indiana). As you must move north and east in 3 moves here, you can judge how you are doing by the constantly updated "current location." Complex structure, simple execution.

Although we've analyzed just three learning activities on the first disk, you can already see that directions are kept to a minimum, partially through superb sub menus; the structure is simple; the pathways direct; the learning concrete; the adaptive possibilities endless.

A quick look at the transparency of Disk 2's menu (of math and geography activities only) will show you how Mr. S jampacks these SSSD disks:

GEOGRAPHY GAMES
0) North-American Cities (comparisons: which is further north? west?)
1) Largest Cities (Chicago is the largest city in what state?)
2) World Capitals (multiple choice)
3) US Mileage (which is closer / how far is it to?)
4) Map: Eastern US (does Maine touch Vermont?)
5) Map: Europe (does France touch Luxembourg?)
6) Map: Latin America (does Equador touch Chile?)
MATH GAMES
1)Patterns (math drill with wallpaper graphics)
2) More or Less (greater and lesser numbers)
3) Roman Numerals (teach, convert, quiz)
4) Chinese Numbers (teach, convert, quiz)
5) Tardis (strictly for us Dr. Who fans;requires SS and TEII)

PATTERNS is a flash-card-type arithmetic drill (3+17, 21X65, 14-11) on a solid background pattern that does not scroll when foreground "work area" does. The "wallpaper" changes and provides a nice 3-D effect. Score is kept as you go along; correct answers are given; a total is displayed at the end of each 10 questions before a new quiz with a new largest amount total being input again. Some toots and whistles here, also. Not a negative program.

CHINESE NUMBERS has three menu options: T - Teaches Chinese numbers (graphically) from 1 to 9999; I - Interprets by translating any Arabic number of your choice into Chinese; Q - Quiz Giver lets you set the maximum amount and gives you 10 problems to solve, scores, and autoloads at end. Like so many of the Shorock activities, it is easy to get back to any part of the program (but not in some of these cases to get back to the main disk menu).

WORLD CAPITALS has a wonderful menu that includes 1) Latin America 2) Europe 3)Africa 4) Asia 5) Oceana 6) Entire World 7) TI Answers (instead of asks) 8) Show Off Everything 9) New Player (instead of the person who typed name at beginning of game, as this will give game competition opportunities)

I wanted to add one thing here, Mr. Shakespeare, if you use these disks with your young relatives. This program, unfortunately, sometimes repeats questions back to back (and to back again, in some cases) within

the 10-question activity. This should've been eliminated. That sort of problem does appear in some of these other activities, too.

However, Class, a great opportunity to learn all those new former Soviet Union and other Eastern European and Western Asian countries would be to change this program to include just these "new" countries for flash-card learning. Mr. Shorock has made a great base into which it is fairly easy to plug new data.

I see people peering at their watches. Before we go today and before I assign homework, I have a couple more overhead transparencies to show you, such as this projection of the menu from Education Disk #3: Misc.:

```
A - STATES 50
B - SEMAPHORE SIGNALING
C - FAMOUS PHILOSOPHERS
D - FAMOUS COMPOSERS
E - CHEMICAL ELEMENTS
F - GEOLOGY TERMS
G - CANADIAN PROVINCE CAPITALS
H - MEXICAN STATE CAPITALS
I - FLAG QUIZ & DEMO
J - PRES.  INAUGURAL DATES
K - SUBJECT/VERB AGREEMENT
L - SHORTWAVE TUNING SIGNALS
M - JULY 4TH DEMO
N - CATALOG
O - DOCUMENTATION
P - EXIT
```

When I look at FAMOUS COMPOSERS, Class, I'm reminded of the time a group of music historians dug up Beethoven's grave. When they opened his coffin, up popped Beethoven, shouting, "What is the meaning of this? Can't you see I'm busy decomposing?"

L is interesting. The signature tunes which are played by different countries before they begin their shortwave broadcasts are played (Switzerland, Canada, Kuwait, South Africa, etc.). Once learned, there is a quiz, of course.

After all the playing and using and trying and testing, I finally found an error, Class. In STATES 50 the program says New Hampshire does not touch Massachusetts. It does. Not bad. One small mistake in four jampacked disks of educational programs.

Most of the programs I think you can figure out from the titles. Now this last overhead. Has two menus shown on it: the main and the one by pressing 3 on the main:

```
1) USE PROGRAM
2) PRINT DOC
3) LOOK AT DOC
4) SEE DISK CATALOG

    1) A word about Fairware
    2) Why I wrote this program
    3) How to use this program
    4) Programming techniques
          segmented array items
    5) Programming techniques
          randomly filled array
    6) How LOOK AT DOC works
```

you may leave docs
                    for menu any time

     From these menus you can see, Class, that these educational programs
by the McGuffey of the 1990's are not just for children. The things you
can learn about programming and data structuring from the INVENTIONS
disk, alone, is worth the price of admission; which, being Fairware in
the TI Marketplace is always the best buy in the computer world. So, if
you are like Mr. Shakespeare or Mr. Bell over there who are always
looking for educational materials for youngsters or even like Ms. Bronte
who always wants to get some adult learning materials, you would all be
wise to order these disks right away from Mr. Shorock.   They·are   not
available in the campus bookstore. Send what you think is a fair amount
for each of these disks ($5 to $10 per disk would certainly be fair,
particularly when you know what is charged for commercialware elsewhere)
and help yourself or your young learners in ways that the original
McGuffey never dreamed of.
     There will be items from each disk on the final.
     No, Mr. Shakespeare, Mr. Shorock is not the only person or company
making educational materials for the TI.   Chris Bobbitt's ASGARD
SOFTWARE (P.O.Box 10306, Rockville MD 20850) and Ken Gilliland's NOTUNG
SOFTWARE (7647 McGroarty St., Tujunga CA 91042) are two companies that
still put· out various kinds of educational materials, too, and their
catalogs are free.
     And don't forget Jim Peterson's TIGERCUB SOFTWARE (154 Collingwood
Ave., Columbus OH 43213), the very best source for excellent,
inexpensive, very specific educational software on disks, including more
adult learning materials for you, Ms. Bronte. The $1 catalog fee is
redeemable with your first order.
     But your homework, Class, is to look through all your disks and
cassettes (which we'll discuss the class after next) and search for the
10 most educational items you can find - the best; ones you personally
feel are the most educational, that do the learning task successfully.
Bring them to class next time and be prepared to give 5-minute talks on
why you chose these 10.
     If you belong to a user group, have everyone in the group do the same
and put together some master educational disks and cassettes.   This
could be a great service to all the newtimers coming into our TI World
Community.

The Philadelphia Area TI-99/4A Users' Group meets once a month. On the first saturday of the month at the Church of the ATONEMENT, 6200 Greene St. Germantown (Corner of Greene St. and Walnut Lane) at 10 AM. We invite anyone that is interested in the TI-99/4A or Geneve to visit us. Stop in and see what is available to you for your TI and how membership can benefit you!

Current executive board consists of :

REMEMBER to be considerate when calling

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> (OPEN)

any of the above people. Limit your calls to early evening hours. (6pm to 9pm)

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