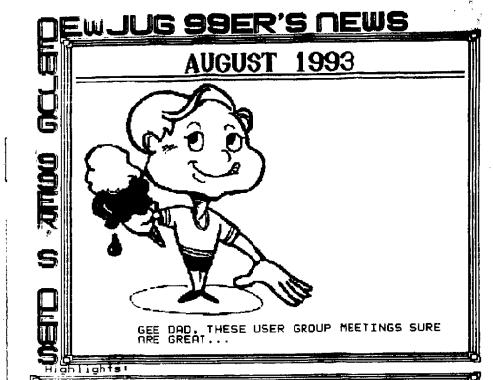
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NEWJUG 99ER'S UG P.O. BOX 1463 SNYREVILLE, N.J. 08871-1463



Hacking N C99



lest month I explained the process by which a c99 source file becomes an Ed/Assm option #3 executable program. This month I will start explaining the basic structure and components of a c99 program. When possible I will try to elate the c99 structure to Extended Basic syntax and/or mamples. As I so over various items in c99 source examples will explain them through the use of comments rext to the contained between a slash/asterix to open the comment and esterix/slash to close the comment. The verbage in a comment is the same as in a REM statement in BASIC and is not compiled or executed. An example of a comment is as collows: /* This is a comment */.

in advantage of programming in C is that it lends itself well to structured programming techniques, forcing you to think of functional modules or blocks of code with a specialized purpose. A C program is little more than arranging these modules (functions) to perform the overall task of the program. A function in C can be compared to a subroutine or more properly subprogram in Basic in that the program breaks its sequential processing, branches to the subroutine and executes the subroutine, then returns back to the program to execute the next instruction. The number of subprogram. Examples in Basic of a function would be any Rasic rommand such as CALL HCHAR(1,1.42,768). The Basic rogram would pass the samples in Basic of a function would be congram would pass the samples to the next line in the lasic program after the call to HCHAR. The syntax for sail ing a function in C is very similar to that of Basic into its the name of the function followed by an open parentheses, any parameters separated by commas, a close content to the tunction as opposed to creating a function which I will discuss later. The following is an example of a Basic unction vall and a c98 function call.

(esi = CALL HCHARCI.1.42.768)
99 - hchar(1.1.42.768); /*located in the GRF1 library*/

late that in c99 "CALL" is not used and the statement ends with a semicolon.

Inm of the first differences you will notice about the D language syntax is the use of lower case letters in writing the source code. Lower case must be used to enter the source statements. An exception which may be used is the

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naming of constants with capitals to differentiats between variable and constant values (discussed later). Remember though that if you use capitals for any constant every reference to the constant name must be capitalized. Another trait of C is that the source may be entered in a free form manner as long as the statement syntax is correct. However you should adopt some form of consistent entry for readability and debugging.

The main() Function

The special function "main()" marks the point where a C program begins execution and is the controlling function of the program. In short, main() is the program and consist it calls to other functions. This function can be used only the in a program. Since main() does not yet exist it must be created as opposed to being called. If it were called the syntax would be - main(): To create main() you may use the following structure:

/* <--- start of function */

.....
/* <--- function body */

/∺ <--- and of function (program) */

To create a function enter the function name followed by open and close parentheses. In this case there were no parameters used. Underneath the first letter of the name an open brace is used to denote the start of the function tollowed by C statements which perform the task of the function. Last is a close brace which ends the function/program. Open and close braces are used in C to denote a grouping of related C statements and may also be used to account statements in loops and boolean test ("if" statements).

For every open brace which starts a grouping there must be a close brace to end the grouping (Examples later). In Basic ore example of a grouping would be the FOR NEXT topps where all the statements between FOR and NEXT are executed as a block of related statements. Collowing is two small programs one in c99 and one in Basic toat do the same task.

MASIC PROGRAM

100 CALL CLEAR
110 FOR I=1 TO 10
120 PRINT "This is some text"
130 FRINT "So is this"
140 NEXT I
150 END

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99 PROGRAM

main() /* creating function "main" */
/* start of program/function */
int is /* creating an intercer parish)

int i: /* creating an Interger variable "i" */

/* end of function/program */

unctions (buts) may be called within a function (main) to mile powerful functional modules. Of course, the above is a simple example. Next month I will explore the use of individual functions and more syntax of c99.



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MAINVIN

The regular meeting of the II-99/4A New Jersey User's proup (NewJUG) was held at the Isalin Public Library, 1081 reen Street, on Tuesday morning, 1 June 1993.

reen Street, on Tuesday morning, 1 June 1993.
The meeting was called to order at 7:58 pm by the resident. Mr George Lytle. The minutes of the previous meeting were read and accepted as read.

The Treasurer, Mr Dan Gazsy read his report as published in the New-UG News. The report was accepted as read.

A MOTION was made and PASSED to reimburse Mr Dan Gazsy k29.95 for postage for the newsletter.

O MOTION was made and PASSED to reimburse the Secretary 19.00 for postage stamps purchased.

Dust work collected. Mr Joseph F. Ross renewed his membership for 1993.

The meeting was adjourned about 8:45 pm.

Respectfully submitted,

Johan I. Nykuist Secretary

† create

Editor's Forum

BY DAN GAZSY

Each month, I start out with the best of intentions to complish x number of projects/tasks. Having the swaletter ready for the club meeting has always been a stierity and I've been pretty good about making that

When it comes to my other priorties. I'm usually alot 1988 successful. There was a time when I could allocate time to program for the machine. Now in order to do that, some other item gets ignored. This morning as I type this article. I stare down at an unopened bank statement for the club and a ctack of newsletters from other User Groups. In the past, I always managed to balance the UG's account (and occasionally produce a treasurer's report for the newsletter) in a timely manner. This month it will get done, but most likely at the last minute. As for the newsletters, I generally read them, log them into our exchange database and bring them along to the club meeting. After perusing the stack, I guesstimate that process would take the better part of a weekend (something that I no longer have at my disposal). To some, this might sound like I mighting a solo on the world's tingest violin, but what I'm neally trying to say is that we need new blood to take up the slack. I realize it's hard to attract new members to a computer that has reached it's twilight years. However, sometimes we overlook the obvious potential members (the next club meeting, try turning around to family members and asking if anyone wants to go with you. For some parents, this might be better received if they also mention a trip to the ice cream stand on the way home. The worst that can happen is a response of: "Get a life, DADI".

66 MODE AND THE V9938 PART 1

BY DAN GAZSY

Outrothe past few years, quite a few of us have purchased 80 column devices and patiently waited for the promised software to take advantage of it. For those of us that like to program in Extended Basic. Alexander Hulpke created XHI for 66 and 67 modes and X80 for lext2 mode.

16K bideo area. If you want: memory that spanned a 16K ba

the bank will automatically

o access contiguous video

thile both of these add on nice functionality to XB, the speed Clack of its of Basic made me look elsewhere. If you search through the database libraries of Celphi, Genie, to. you'll find some assembly source coce demos that will thou off some of the functionality of the V9938. Most of these demos were written by individuals like Gary Bowser or eff White. Onother source of information for potential rogrammers, were DIJIT SYSTEMS AVPC Tech Notes by David illen. The last source (and probably the most complete) for the V9938 is the Technical Data Book for the MSX-VIDEO put Lut by Vamaha. When you put all this information together, you have quite a good reference library for writing software to take advantage of the V993B.

Since I'm interested mainly in graphics. I hope to write scries of articles that will provide some insight into low to program the U9938 in G6 mode ONLY. In order to get itartid. WE need to discuss the capabilities provided by selecting G5 mode.

When you put the V9938 in 66 mode, your screen becomes apable of presenting graphics that are 512 pixels wide and 92 or 212 pixels long. Any of these pixels can be one of 6 different colors. The sixteen colors can be chosen from , palette of 256 colors. The image you see on the screen is stored in video memory's Pattern Name Table. For an image :12×192 pixels, it would use approximately 48k of video emory. An image 512x212 pixels, would use approximately 3K. If you wore to use sprites, another 4k of memory is allocated to the sprite tables. In 66 mode the spread only are only two pages (64K each) available, with the approesiding in the same relative area on both pages. Below is , facsimile of a chart in the VRMAHA **V9938** manual. topefully, this will make the URAM allocation easier to

Dec Addr	Hex Addr	+	+
e	≠ 0300	: :Pattern Name Table	->++ 15prite Gen!>F000 1Table (2K):
'1 .	. 0388	i 192 lines	+
		212 lines	i itable(.5k)
53k	>01100		/ / ISprite Attl>FA00
68k	:F000	+	+/ : able(.25k)
64k	10000	: Sprite Area	! >++>FA80 +
		: !Pattern Name Table	: ->++ : : :5prite Gen!>1F000 : : :[able (2K):
		192 lines	1 1 +
112r.	>10000	212 lines	+
117k	> 10400	1	+ / +
124k	>1F000	<u> </u>	
• ••		: Sprite Area	1->++>1FA80
158K	>1FFFF	+	+

While the VAHAMA manual implies you can address anywhere on a video page from memory, our TI99/4a only knows about Page 06

reliably Housever, if you wanted to access video memory that resided on a prior bank, you would have to set the bank before accessing the video location. If it sounds a little confusing right now, I hope to clear it up when we get to ode examples. While reading through the documentation of XHI Cauthor a. Hulpke), he alludes to video memory not being contiguous dien the graphics cand switches modes (Graphics G1 to G6 unds or vice versa). For example, the TI99/4A knows video rocations 20000->3FFF in G1 mode, but when you switch to which GG. those same locations are no longer contiguous, but show up in every fourth byte. Since a page in GG mode is 50%, it sort of makes sense (64%/16%-4). If your intention

is to write software that does file i/o or switches between

modes with different page sizes, you'll need a function to converne tone video memory dedicated to DSR's.

Enforce we end this installment of the article, lets at least briefly talk about the MSX video commands available to you. In the VAHAMA menual, they outline 12 video commands for your use. Some of them are byte oriented toonsidered high speed moves) and others are bit priented. They are all screen related and their use takes the worry out of spanning banks within a page. They have four commands listed as high speed moves, but you'll find out that this is relative to your CPU speed.

In the rext installment, we will list the port addresses

referred to in the VAHAMA manual and write a few basic functions to switch modes. Till next time...

The Friendly Guide

Safe Fax

By Dr. B. Comfortable

(Reprinted from Oshawa 1199/4a Computer User Group Newsletter. May 1993)

Q: Proctor, I am new to fax, I have not had much fax, and I am worried, Is it safe to have fax?

: Fax is perfectly safe, provided both of you and your partner maintain your squipment in good order. Keep it cican and have a regular check-up by a qualified consultant. Do not be embarrassed at your lack of Exercice. There are many excellent fax manuals available, including my own. "The Joy of Fax".

ાંઃ About how often should I fax?

H: Those who are new to fax can't get enough, and do it #11. the time, We usually find, however, that as we get older

Page 07

and the novelty years off, the desire to fex decreases apidly, particularly if we still have the same old machine. It is not unknown for jaded faxors to have a priof "fling" with a new, exciting machine, but this, too. ill usually burn out quite quickly.)

- In Can I have fax with more than one person?
- Is By all moons. This is perfectly normal, even necessary in nost circumstances. It time we cast eside our hang/ups bout fax. teel (ree to "let it all hang out" and share the elf with the world.
- or Do you have to be married to have fax?
- is Good lood, no. People who hardly ever fax their wives ill spend most of their working lives faxing complete francers.
- or My parents say they never fax when they were young, and mere only allowed to write memos to each other until they ere twenty-one. is this true?
- is was, but why worry about boring twits like them!
- J: If I fax something to myself will I go blind?
- u (entain)u not, as far as I can see.
- is There is a place on our street where we can go and pay or fax. is it legal?
- : tes, many lonely people have no outlet for their fax wives and must pay a "professional" when their need ecomes too strong.
- ** What are the consequences for indiscriminate fax?
- !! Very high telephone bills.

first published in GENIE LAMP, online magazine of the Enim information service. Feb. 1.1993)



We spotted this classified ad in the neighborhood newspaper: "For sale, cheap! one set of Jack Nicklaus golf clubs with bag and carti one right-handed softball mitt: bowling ball and bag with assorted trophies. Call 555-1443. If a man answers. hang up."

UORD SFARCH

Mond List EGGPLONT LETTUCE FERS GREENBEANS PLONTS FLOWERS TOMOTO ∟nBB#Ğ**E** SPURSH

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TREASURER'S REPORT

Date 96/91/93	Description Opening Balance	Amount 301.27
	Money In Membership Renewal-Joe Ross Disk ^S urchase	00.21 00.5
	Sub . C. C	318.27
	Money Out Postage – J.Nykvist Postage – D.Gazsy	19.00 29.95
	Subtotal	48.95
07/30/93	Closing Balance	269.32

The closing balance posted here (269.32) differs from the balance (338.82) that the bank has posted on our account. After allowing for outstanding checks, we still come up with the same difference of \$56.55. Since the error is in our favor, it's just a matter of time till the bank reconciles the account. As a result, we will continue to carry the difference until the account is corrected.

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Newsletter Exchange

his month. I discovered hat there have been some mailing address changes to kur exemango list. För hose familian with this element thought and new idditions siê annot**ated** ith as saferiat. A limit tormand to hearing the and arrup wishing to initiate ar exchange and ncourage others to use his list for communication with other groups. If you now of any US Chot on our 'ist) that would like to vehange newsletters. We'd e very interested in meaning from you bis the ommonto and suggestions on he cover rage.

North Jersey II IBM UG 16 Judith Ann On. Ringwood, NJ 07456-1863

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COMMENTS & SUGGESTIONS

WORD SEARCH

Word List
EGSPLANT
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PLANTS
FLOWERS
TOMATO
CABBAGE
SQUASH

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