

ABC

Mini Compiler ver 1.4

INTRODUCTION

Trikala Greece 2010

Modification Josef L. 2024

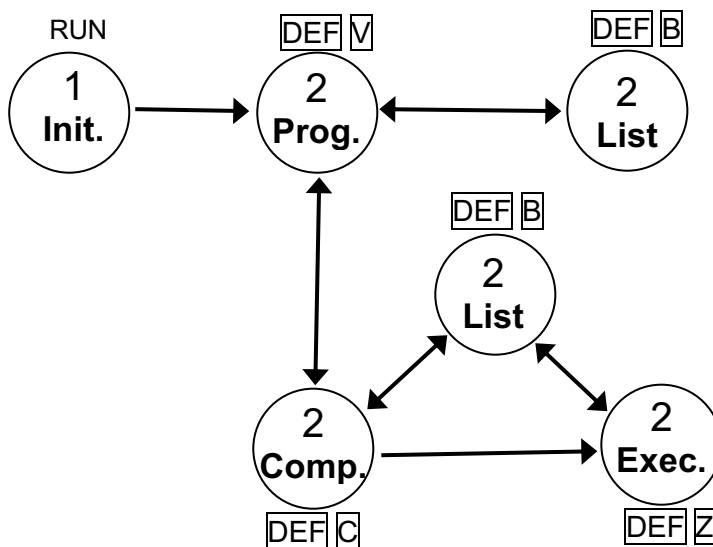
	IF ... GO	$V_1, V_2 ::= \langle \text{VARIABLE} \rangle$ $r ::= = < > () \#$ means $\leq$ $\geq$ $\neq$ If the Boolean result of the comparison V_1 r V_2 is true the program continues with label to x_2 e.g. :IFB#QGO* $\downarrow$ $\neq$	$\text{"":IF B<>Q GOTO "}"$
	8. CLS	xCLS $x ::= \langle \text{CHARACTER} \rangle$ Clears the LCD Display	CLS
	9. PR	xPRV $x ::= \langle \text{CHARACTER} \rangle$ $V ::= \langle \text{VARIABLE} \rangle$ Prints the variable V on the right side of the LCD e.g. jPRH	"x":PRINT V "j":PRINT H
	10. WE	xWE $x ::= \langle \text{CHARACTER} \rangle$ Waits until ENTER is pressed	Similar to WAIT Or $\text{"x":IF INKEY\$<>CHR(13) GOTO "X"}$
	11. GS	x₁GSx₂ $x_1, x_2 ::= \langle \text{CHARACTER} \rangle$ The subprogram lying at the label x_2 is called e.g. mGSf	"x12" "m":GOSUB "f"
	12. RET	xRET $x ::= \langle \text{CHARACTER} \rangle$ Returns the control back at the call position for this subprogram e.g. gRET	"x":RETURN "g":RETURN

IMPLEMENTATION

The implementation is done in BASIC ! and consists of

- | | | |
|--------------|----------------------------|--|
| RUN | (1) <u>INITIALIZATION</u> | (some routines are stored in M/C) ← “ROM” of ABC |
| DEF V | (2) <u>PROGRAMMING</u> | (source program editing ABC) |
| DEF B | (3) <u>LISTING-EDITING</u> | (listing of the ABC source program on LCD) |
| DEF C | (4) <u>COMPILATION</u> | (compiling of source program in MC and location of MC in memory)
Beginning at address 16581 (&40C5) and up) |
| DEF Z | (5) <u>EXECUTION</u> | (execution of MC program) |

Generally a project goes as the graph :

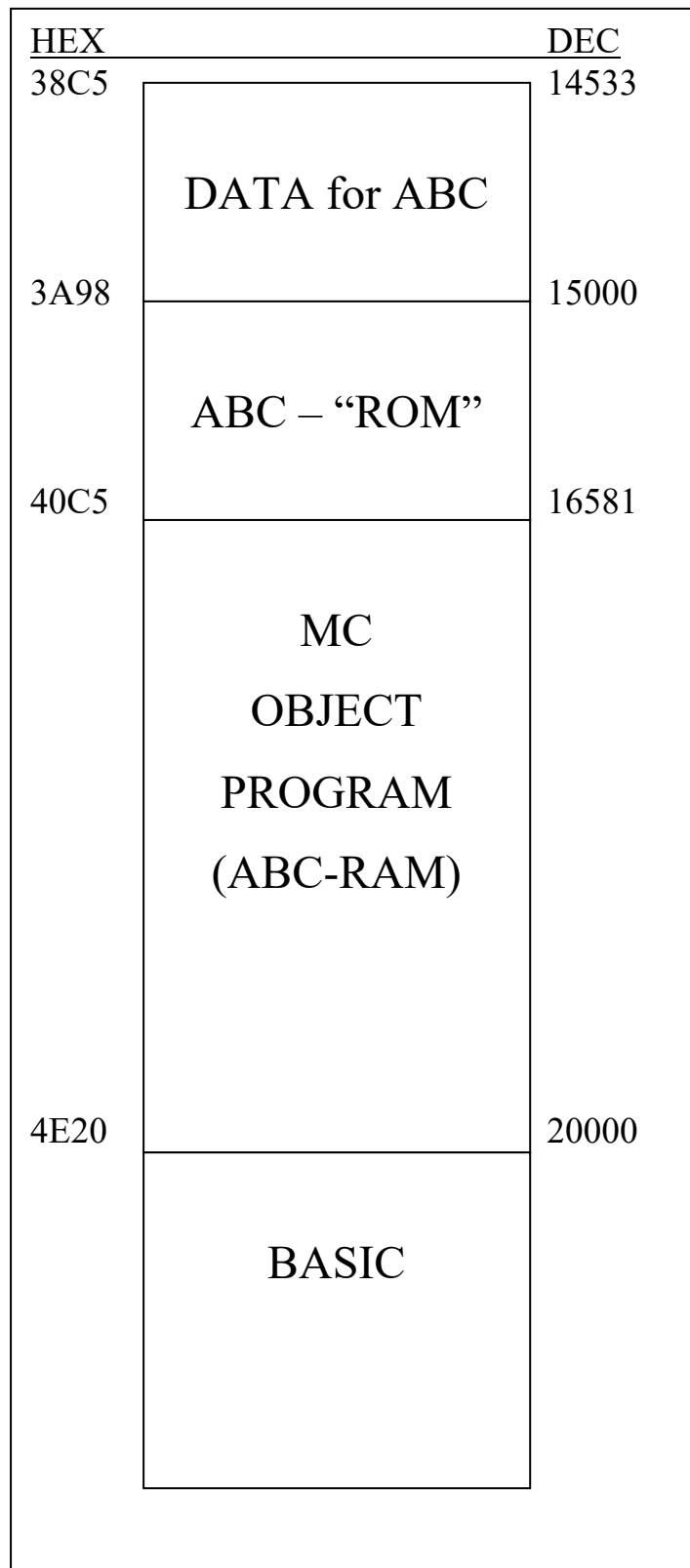


- | | | |
|--------------|----------------------------|---|
| RUN | (1) <u>INITIALIZATION</u> | (some routines are stored in M/C) ← “ROM” of ABC
Must be run once per project. Some important routines in MC are stored in RAM beginning at &3A98. This is done due to reduce the actual object MC because the routines are called many times. |
| DEF V | (2) <u>PROGRAMMING</u> | (source program editing ABC)
First insertion of the source program. Be careful to give a SPACE at the bebinig if there is no label. This stage end when you give the command END . |
| DEF B | (3) <u>LISTING-EDITING</u> | (listing of the ABC source program on LCD)
You can list the source up and down with the keys P and L . End the list with Q . Edit a line with D . |
| DEF C | (4) <u>COMPILATION</u> | (compiling of source program in MC and location of MC in memory)
Beginning at address 16581 (&40C5) and up)
You can see on the LCD the total bytes of MC and the compilation progress. |
| DEF Z | (5) <u>EXECUTION</u> | (execution of MC program)
Final execution of MC program. Its very fast but if you are in a loop you may not break. If this is the case you must reset the PC-1500A |

SOME RECOMMENDATIONS

1. Constants are not provided. You have to give them from the command prompt before execution if form of assignments e.g. A=5.76, I=1, Z=-4.5E13.
2. Because of time needed I have not added syntax error points. So be careful in SYNTAX.

MEMORY MAP for ABC



INSTALLATION

Enter the program.

After that you have to **RUN** the program to initiate it.

And then type the program and go on as mentioned in page 4 (IMPLEMENTATION - graph)

Requirements

I have run all these in a SHARP PC1500A + 16KB EXPANSION RAM.

But I once tested it in a SHARP PC1500 + 4KB EXPANSION RAM and it was OK.

ERRORS

There is a disadvantage in error finding since it needs much time.

You must be very careful in typing. But if you get in an endless loop or if you generally can not stop the program then just reset it, and look at the BASIC program before. If it is OK you can continue working. If not then type new 0 and load the program from tape again.

Conclusion

*Finally, I have all these done just for fun and for all of the great programmers of
SHARP PC1500 / A.*

If you have any problems or recommendations I would be glad to hear and help.

E-Mail me at greektakis@gmail.com

Have fun

Dimitris Papadopoulos
TRIKALA GREECE