

Writing first program

In order to begin with the activity of writing a program using C language first let us write a program using the software that has already been installed and a video in this regard has already been shared using Google Classroom application.

Let us first start with a simple program which can display the following message on screen
This is my first program in C Language

The program for display the above statement is given below:

```
#include <stdio.h>

main()
{
    printf("This is my first program in C Language");
}
```

All the statements written in the above program must be written in small case letters only as C language treats lower-case 'a' and upper-case 'A' as two different entities, therefore, it is better to stick to one method. The recommended method is to use lowercase letters in C language.

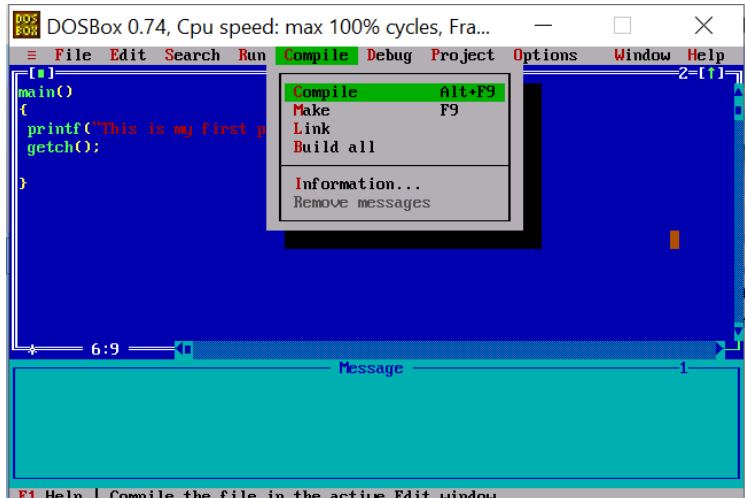
Let us try to understand the statement of the above mentioned C Program.

Line No. 1: #include <stdio.h> gives information about invoking the library of C language where all the standard input and output functions are given. For example if you hear a word "holistic" and you do not know the meaning of the word you will refer to a English dictionary and will understand the meaning of the word in order to make use of the word in your sentences. Similarly in C language a word printf is mentioned in the program which belongs to the library of C language where all the steps related to implementation of printf are explained which the computer uses in order to implement the printf statement. In case a person writes print statement only, then C language will display an error message as the word doesn't belong to the library of C language. All these libraries are stored in files known as header files in C language.

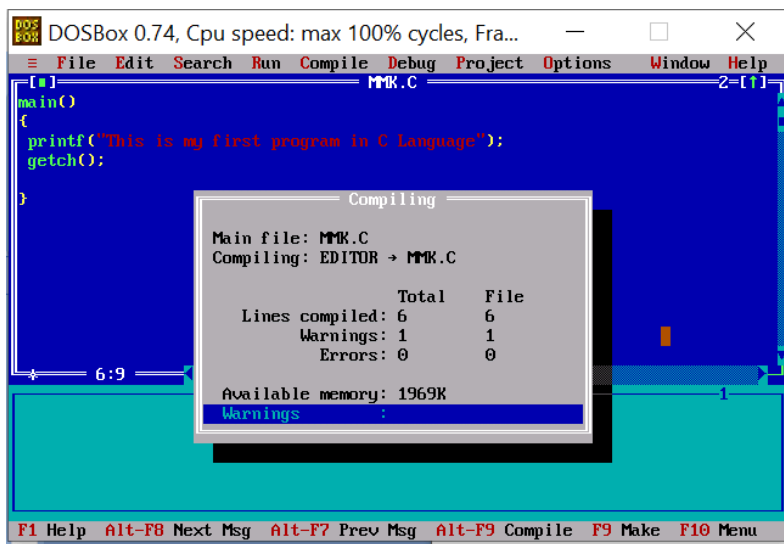
Line No. 2 main() is the starting point of a C program from where the program starts execution. As mentioned in the earlier class a single entry and single exit is a characteristic of a program therefore main() { is the starting point of a program. The '}' closing curly braces is the exit or close of the program. All the statement written between '{' and '}' are the statements that will be executed by a C language compiler in order to execute a program.

Line No. 4: printf("This is my first program in C Language") corresponds of different components like "printf" which is actually a function with objective to display the contents mentioned in the arguments that is within '(' and ')' on the screen. The instructions within " " is displayed as it is which means the text mentioned in the inverted commas " " will be displayed on the computer screen.

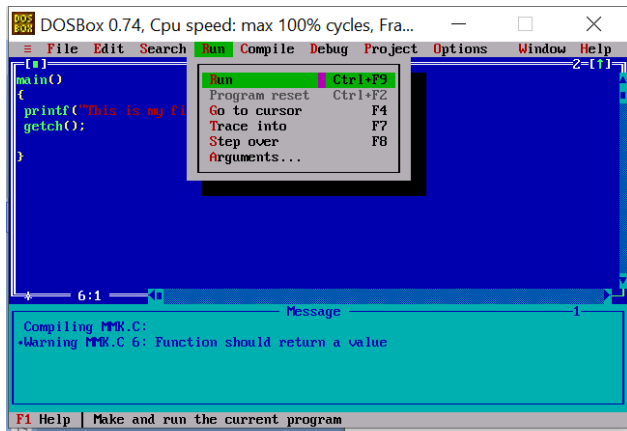
Once the program is written it needs to be compiled first in order to proceed with the execution of a program. To compile a C program one can select the compile option from the compile menu or one can simply press ALT + F9 key to compile a program.



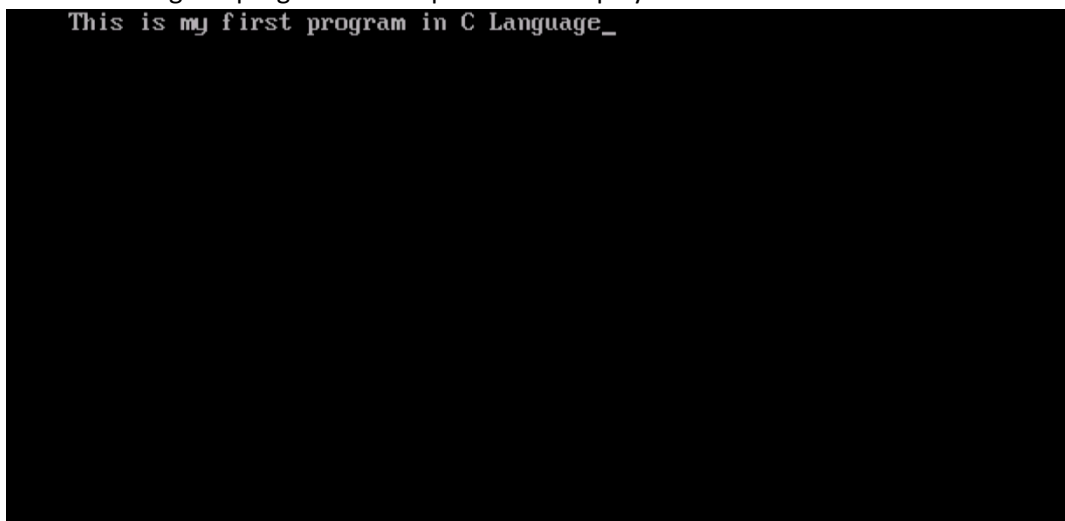
If the program doesn't have any errors then the message will be displayed that the program is having Error: 00.



On successful compilation of the program the same can be executed either by clicking on the RUN menu or by pressing Ctrl + F9 key.



After executing the program the output will be displayed in a window as shown below:



The output “This is my first program in C Language” is displayed on screen.

Please note the program written in C language is saved as mmk.c where the file mmk has extension .c. which means when you write a program it will always be saved in a file with extension .c. However, when mmk.c file is compiled a new file is created as mmk.obj which is known as object file. The compiler of the language creates this file automatically based on the program written in mmk.c file. When a user clicks on the run option the object file mmk.obj is used to create an executable file mmk.exe which is used by the computer to execute a program. Please do remember that the executable file mmk.exe is the exact machine code file which a computer does understand.

The list of the files created on computer automatically is displayed in the figure given below:

```
C:\WINDOWS\system32\cmd.exe

C:\TurboC4\TC\SOURCE>dir mmk.*
Volume in drive C has no label.
Volume Serial Number is 024B-F392

Directory of C:\TurboC4\TC\SOURCE

03/31/2020  08:15 PM                11,434 MMK.EXE
03/31/2020  08:15 PM                 423 MMK.OBJ
               2 File(s)              11,857 bytes
               0 Dir(s)  123,267,244,032 bytes free

C:\TurboC4\TC\SOURCE>
```

A video explaining the process of writing a program will be uploaded soon for better understanding of the concept as it is important to understand how the a program written in C language is compiled and executed.