

Programming with C

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Introduction

C programming language is a must for anyone who wants to become a professional and a great Software Engineer

Here is the list of some advantages of C:

- Easy to learn
- Structured language
- It creates efficient and fast programs
- It can be compiled on a variety of computer platforms

Facts about C Language

- C is a successor of B language which was introduced around the early 1970s.
- The language was formalized in 1988 by the American National Standard Institute (ANSI).
- C was invented to write an operating system called UNIX. Later UNIX was totally written in C.
- Most popular Linux OS and RDBM's have been written in C. (ex MySql)

C Language basic structure:

A C program will be consisted of the following

- Preprocessor Commands
- Functions
- Variables
- Statements & Expressions
- Comments

Let's look at an example:

```
#include <stdio.h>

int main() {
    /* my first C program */
    printf("Hello, World! \n");

    return 0;
}
```

The first line `#include <stdio.h>` is a preprocessor command, which tells a C compiler to include `stdio.h` file before going to actual compilation.

The next line `int main()` is the main function where the program execution begins.

The next line `/*...*/` is a comment. Anything between the starts will be ignored by compiler

The next line `printf(...)` is another function available in C which displays the message "Hello, World!" on the screen.

The next line `return 0;` terminates the `main()` function and returns the value 0.

Compiling your program

To compile this program, save the code using a text editor with extension `c` (example `helloworlds.c`). Launch Cygwin and go to the folder where file is located and type this command

```
gcc helloworld.c
```

this will generate a file called `a.exe`. To run the program type below command:

```
./a.exe
```

It will display "Hello World" on screen