

C Language Introduction

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Language Introduction

1. C is a general purpose high level language
 - Assembly language is an example of low level language
2. Unix is developed using C language
3. C is a **Structured** Language
 - BASIC is not a structured language, it uses GOTO statements
 - C++, Java and C# are Object Oriented languages
4. It can handle low level activities
5. It can be compiled on a variety of machines
6. Programs are **compiled**
(BASIC uses Interpreter)

Compiling and Linking

1. Compile
 - Produces .o or .obj file
 - This file cannot be executed directly
2. Linking
 - Produced .exe file
 - Creates a single executable file from multiple Object files

Additional Info :

Languages using Interpreter

- BASIC, Java, Python, Perl

C / C ++ Language IDE

- <http://www.bloodshed.net/devcpp.html>

Recommended Book : The C Programming Language by Kernighan & Ritchie

Program Structure

Program #1

```
#include <stdio.h> /* standard input output library */
main()
{
    /* function defined in the stdio.h file */

    printf("Hello world \n this is my first program in c ");
}
```

Escape sequence : try \" , \t instead of \n

Points to ponder

```
#include <stdio.h> // whether this file will be same in a different OS / Hardware ?
main()           // What happens if you give two main functions in program ?
                // Also, if you don't give a main function, what will happen ?
{
    printf("hello world \n ");
}
```

Variables

Program #2

```
#include <stdio.h>
main()
{
    int aud_to_inr = 51 ;    // conversion rate on 22nd Dec
    printf(" Conversion rate = %d \n ", aud_to_inr );
}
```

Variable Names :

- Language is Case sensitive
- Variable Names are made up of only letters and digits
- First 31 characters of internal names and 6 characters of external names are significant
- Can't use key words as variable names ie. If else etc.