

C Language

Chapter # 8

Getting started with C

Lecture: 05

Today's Lecture

Basic Structure of C program

Basic Structure of C program

- ▶ The format of writing C program is called its structure.
- ▶ The basic structure of a C program is very flexible.
- ▶ It increases the power of the language.

Basic Structure Parts

It consists of following parts.

- ▶ Preprocessor directive
- ▶ Main function
- ▶ Program body(C statements)

Basic Structure Parts

- ▶ 1. **preprocessor directive**

```
#include<stdio.h>
```

- ▶ 2. **main function**

```
void main()
```

- ▶ 3. **Program body(C statements)**

```
{  
    Printf("Hello World");  
}
```

1.Preprocessor Directive

- ▶ preprocessor directive is an instruction given to the compiler before the execution of actual program.
- ▶ preprocessor directive are processed by a program known as preprocessor.
- ▶ It is part of C compiler.
- ▶ The semicolon is not used at the end of preprocessor directive.
- ▶ preprocessor directive start with hash symbol # and the keyword include or define.
- ▶ The preprocessor directive is used in C to include header file in the program.

Types of Preprocessor Directive

1. Include preprocessor
2. define preprocessor

Include preprocessor

1. The include preprocessor directive enables a program to access library. Each library contains different header file.
2. The include preprocessor directive is used to include header files in the program.

Syntax:

```
#include<standard header file>
```

Example:

```
#include<stdio.h>
```

```
#include<math.h>
```

The above statements tells preprocessor to include stdio.h and math.h in source program before compiling it.

define preprocessor

1. The define directive is used to define a constant.

Syntax:

```
#define identifier value
```

Example:

```
#define PI 3.141593
```

The preprocessor directive replaces all occurrences of the identifier with the value. The identifier is conventionally written in uppercase.

What is Header file

- ▶ Header file are collection of standard library function to perform different tasks.
- ▶ There are many header files for different purpose.
- ▶ The header file must be included in the program before calling any of its functions in the program.

Example of header file

- ▶ `#include<stdio.h>`
- ▶ `#include<conio.h>`
- ▶ `#include<math.h>`

2. The main function

- ▶ The main function is the place where the execution of a C program starts.
- ▶ When the program is executed, the control enters `main()` function and starts executing its statement.

3. Program body(C statements)

- ▶ A statement in C language is an instruction for the computer to perform a task.
- ▶ The statement are written in curly brackets.
- ▶ Computer performs these instructions one by one in the same sequence in which these instruction are written.
- ▶ Each statement in C is terminated with semicolon.

Example C program

```
#include<stdio.h>
```

```
main()
```

```
{
```

```
    printf("pakistan");
```

```
}
```



The End

Read this topic from your books and ask question if any confusion.

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