



C Programming

Tutorial for Beginners

LECTURE -

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C Programming

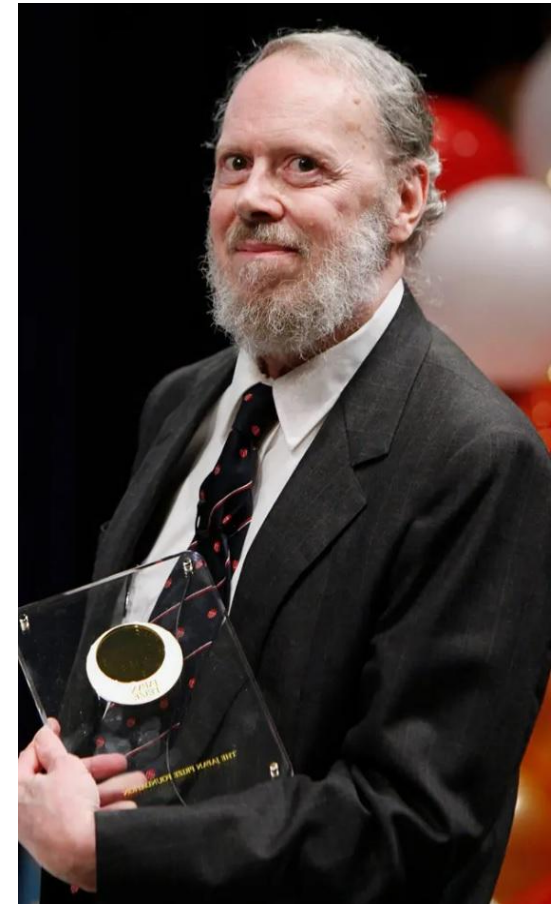
Tutorial for Beginners

What is C?

C is a general-purpose programming language created by **Dennis Ritchie** at the **Bell Laboratories** in **1972**.

It is a **very popular language**, despite being old. The main reason for its popularity is because it is a fundamental language in the field of computer science.

C is strongly associated with UNIX, as it was developed to write the **UNIX operating system**.





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Why Learn C?

It is one of the **most popular programming language** in the world. If you know C, you will have no problem learning other popular programming languages such as Java, Python, C++, C#, etc, as the syntax is similar.

C is very fast, compared to other programming languages, like **Java** and **Python**

C is very versatile; it can be used in both applications and technologies

```
17 string sInput;  
18 int iLength, iN;  
19 double dblTemp;  
20 bool again = true;  
21  
22 while (again) {  
23     iN = -1;  
24     again = false;  
25     getline(cin, sInput);  
26     system("cls");  
27     stringstream(sInput) >> dblTemp;  
28     iLength = sInput.length();  
29     if (iLength < 4) {  
30         again = true;  
31         continue;  
32     } else if (sInput[iLength - 3] != '.') {  
33         again = true;  
34         continue;  
35     } while (++iN < iLength) {  
36         if (isdigit(sInput[iN])) {  
37             continue;  
38         } else if (iN == (iLength - 3)) {  
39             continue;  
40         }  
41     }  
42 }
```



Basic Structure of C

Basic structure consists of three elements.

- Preprocessor Directives
- Main Function
- C Statements (Body of main function)

```
#include<stdio.h>
#include<conio.h>
void main(void)
{
    int a = 5;
    clrscr();
    printf("Value is = %d", a);
    getch();
}
```



Processor Directives

Preprocessor directives are instructions for c compiler to include library files (header files) or define some constant identifiers.

- #include
- #define

```
1 #include<stdio.h>
2 #define city "Lahore"
3 void main(void)
4 {
5     printf("City Name = %s", city);
6     getch();
7 }
```



Main Function

Main function is starting or entering point of c program. Every program must have main function.

```
void main (void)  
{  
    .. Body of main ..  
}
```

```
1 #include<stdio.h>  
2 void main(void)  
3 {  
4     printf("Hello World!");  
5 }
```

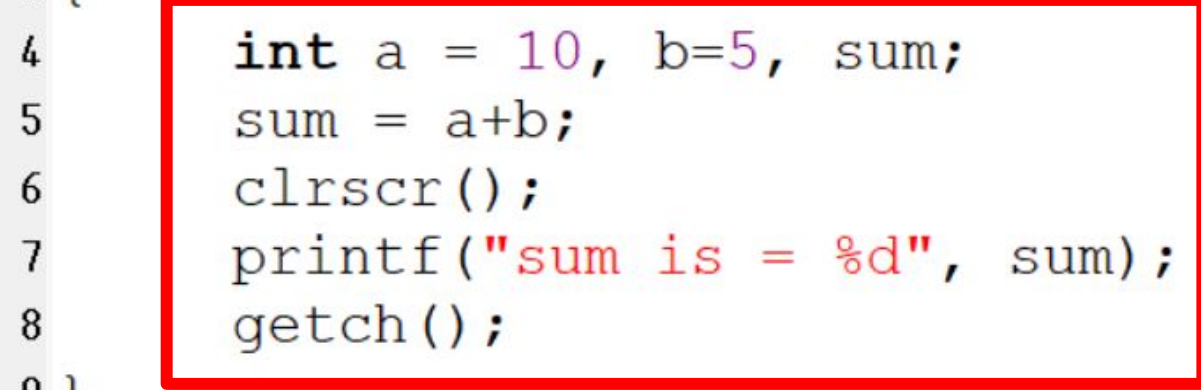


C Statements

Every C program has some set of instructions to perform task. These instructions are called **C statements** (body of main function).

```
void main (void)  
{  
    C Statements ;  
}
```

```
1 #include<stdio.h>  
2 void main(void)  
3 {  
4     int a = 10, b=5, sum;  
5     sum = a+b;  
6     clrscr();  
7     printf("sum is = %d", sum);  
8     getch();  
9 }
```





Summary

- Introduction to C Language
- Why to Learn C Language
- Basic Structure of C Language