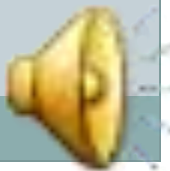


Basic of C Programming



FORMATTED INPUT/OUTPUT



printf() and scanf() in C -

2

- The printf() and scanf() functions are used for input and output in C language. Both functions are inbuilt library functions, defined in stdio.h (header file).

- ***printf() function -***

The printf() function is used for output. It prints the given statement to the console.

printf("format string", argument_list);

- ***scanf() function –***

The scanf() function is used for input. It reads the input data from the console.

scanf("format string", argument_list);



Programming Errors -

3

- Errors are the problems or the faults that occur in the program, which makes the behavior of the program abnormal, and experienced developers can also make these faults.
- Programming errors are also known as the bugs or faults, and the process of removing these bugs is known as **debugging**.
- These errors are detected either during the time of compilation or execution. Thus, the errors must be removed from the program for the successful execution of the program.



Programming Errors -

4

- There are mainly five types of errors exist in C programming –

Types of
errors

1

Syntax error

2

Run-time error

3

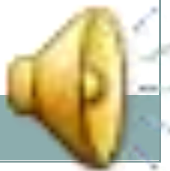
Linker error

4

Logical error

5

Semantic error



Syntax Error -

5

- Syntax errors are also known as the compilation errors as they occurred at the compilation time, or we can say that the syntax errors are thrown by the compilers.
- These errors are mainly occurred due to the mistakes while typing or do not follow the syntax of the specified programming language.
- These mistakes are generally made by beginners only because they are new to the language.
- These errors can be easily debugged or corrected.



Example of Syntax Error -

6

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

```
void main()
```

```
{
```

```
    a = 10;
```

```
    //int datatype missing
```

```
    printf("The value of a is : %d", a);
```

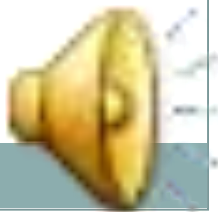
```
}
```



Runtime Error -

7

- Sometimes the errors exist during the execution-time even after the successful compilation known as run-time errors.
- When the program is running, and it is not able to perform the operation is the main cause of the run-time error.
- The division by zero is the common example of the run-time error.
- These errors are very difficult to find, as the compiler does not point to these errors.



Example of Runtime Error -

8

```
#include <stdio.h>
int main()
{
    int a=2;
    int b=2/0;           // divide by zero error
    printf("The value of b is : %d", b);
    return 0;
}
```



Thank you!

