

A job ready bootcamp in C++, DSA and IOT

Input and output instruction in C



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Agenda

- ① About C language
- ② printf()
- ③ Write your first Program.
- ④ Escape Sequences
- ⑤ Format Specifiers
- ⑥ scanf()

About C language

- ① C is a block structured programming language
- ② A c program can have any number of blocks
- ③ Usually outermost blocks are functions
- ④ function has some name for identification
- ⑤ Even the smallest C program has one function
- ⑥ All function names must be different
- ⑦ If there is only one function its name must be main()
- ⑧ If there are more than one function in the program then also one function name must be main.

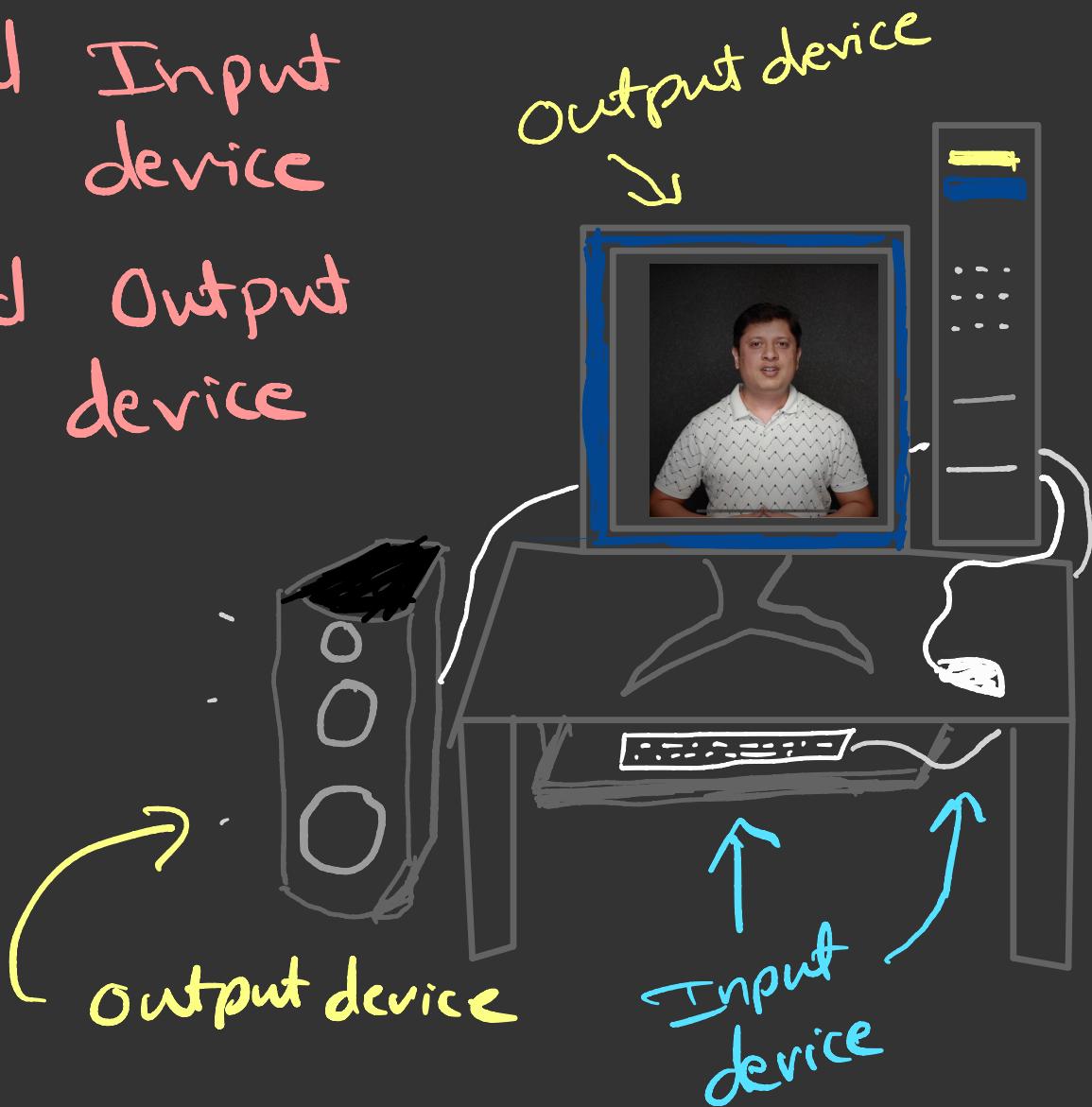
About C language

- ⑨ You can write declaration statements inside a block (function) or outside all functions.
- ⑩ Local variables vs Global variables
- ⑪ Action statements can reside only inside the block (function)
- ⑫ C is a case sensitive language.
`int a;` ^{lower case}
`A=5;` ^{error}
 ^{Uppercase}

Standard Input & Output devices

Keyboard → standard Input device

Monitor → standard Output device



Output Instruction

printf() → predefined function

printf() is used to print some text on the monitor.

printf("Hello");

printf()
{

printf()

① to print text

② to print value of a variable or
an expression.

==

}

Write a program to print welcome on
the screen.

```
#include<stdio.h>           preprocessor  
int main()                   Compiler  
{  
    printf("Welcome");        Linker  
    return 0;  
}
```

Write a program to print **welcome students** on the screen. Print **welcome** on the first line and **Students** on the second line.

```
#include<stdio.h>
int main()
{
    printf("Welcome\nStudents");
    return 0;
}
```

Escape Sequences

- \n new line
- \t tab space
- \b back space
- \r carriage return
- \f form feed
- \\" print \\"
- \\" print \"
- \' print '

Write a program to print value of a variable.

```
#include<stdio.h>
int main()
{
    int a=5;
    printf("%d", a);
    return 0;
}
```

Format String

Format Specifiers

- %d int
- %c char
- %f float
- %lf double

Write printf statement to print
following on the screen.

Consider \rightarrow int a=5, b=6;

- ① 5 6 $\text{printf}(" \%d \%d", a, b);$
- ② a=5 and b=6 $\text{printf}(" a=%d \text{ and } b=%d", a, b);$
- ③ a=6 & b=5 $\text{printf}(" a=%d \& b=%d", b, a);$
- ④ Value of a is 5 and value of b is 6 \downarrow expression
- ⑤ Sum of 5 and 6 is 11 \rightarrow $\text{printf}(" \text{Sum of \%d and \%d is \%d"}, a, b, a+b);$
- ⑥ $5+6=11$ $\text{printf}(" \text{Sum of \%d and \%d is \%d"}, a, b, a+b);$

$\text{printf}(" \text{Value of a is \%d and value of b is \%d"}, a, b);$

$\text{printf}(" \%d + \%d = \%d", a, b, a+b);$

Scanf()

scanf() → predefined function

scanf("%d", &a);
 ↑
 address of

Write a program to calculate sum of two integers.

```
#include<stdio.h>
int main()
{
    int a,b,c;
    printf("Enter two numbers");
    scanf("%d %d", &a, &b);
    c=a+b;
    printf("Sum of %d and %d is %d", a, b, c );
    return 0;
}
```