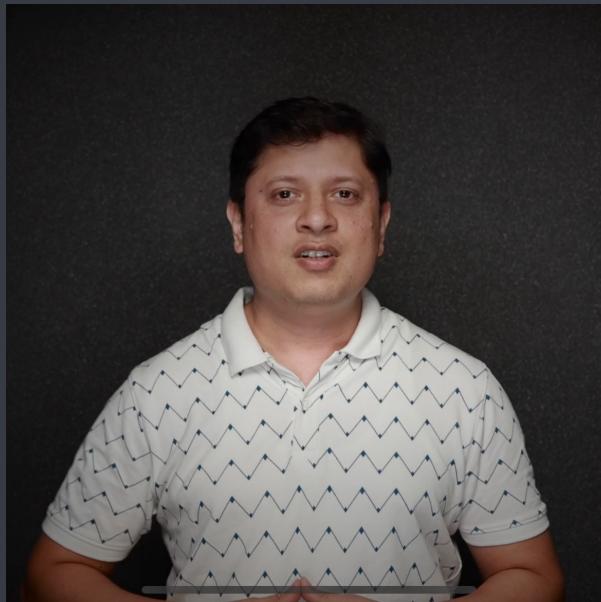


C Language

Function



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Agenda

- ① What is a function
- ② Function call and Function definition
- ③ Predefined and User defined functions
- ④ Flow of program with multiple functions
- ⑤ Benefits of functions

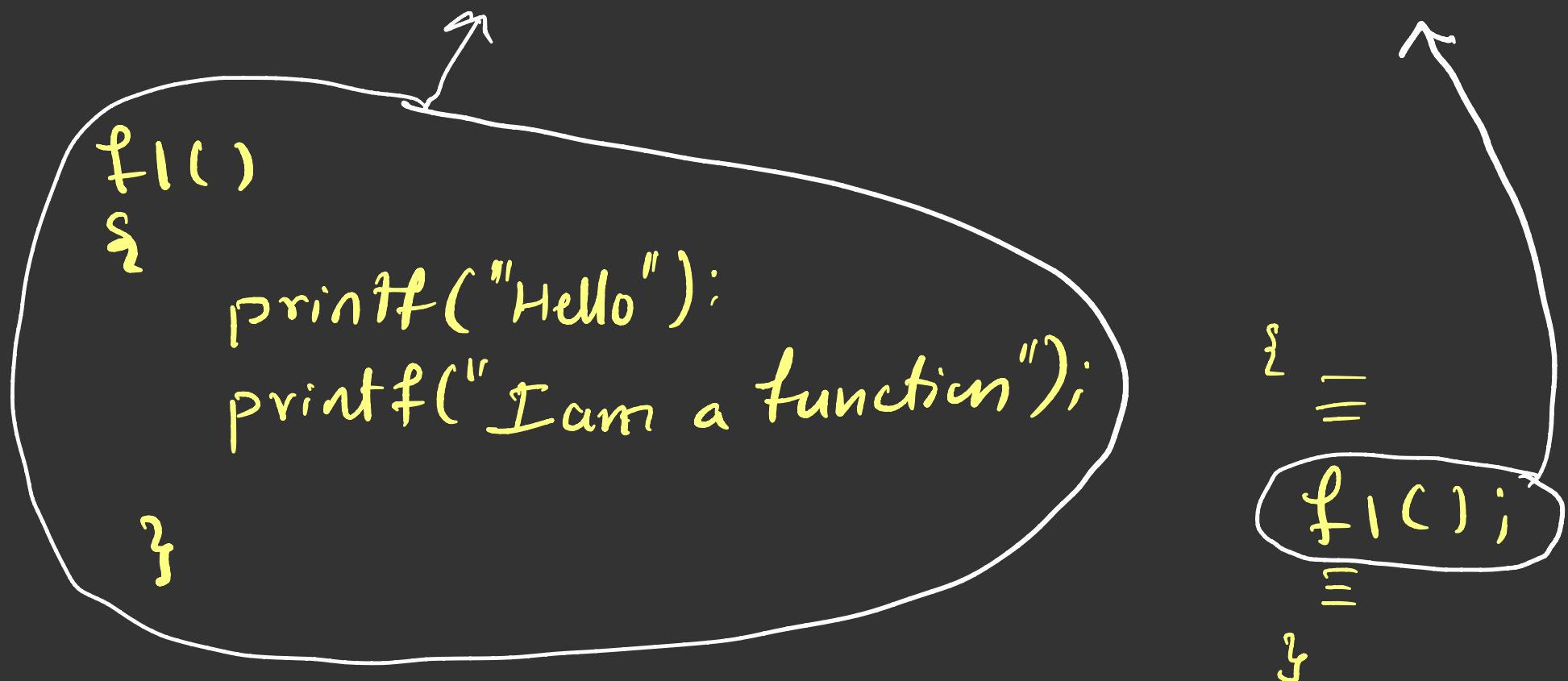
What is a function?

- Function is a basic building block of a C program.
- Function is a block of code, which has some name for identification.
- A C program can have any number of functions

```
functionName( ) {  
    // some code  
}
```

Function Definition

- Function names must be unique in a program
- Function definition vs function call



- Function is a way to implement modularization.
- Modularization is splitting up of a bigger task into several smaller sub-tasks to reduce the complexity of a problem.
- You can compile a C file without having main() function but cannot run.

Functions are of two types

1. Predefined Functions printf(), scanf(), getch()
2. User defined Functions main() q1() q2()

main()

{

 ==
 ==
 ==

if ()
{

}

No Keyword is a function

for()
sizeof()
while()
~~elseif()~~

Flow of a Program

```
int main()
{
    a();
    b();
    a();
}

a() ←
{
    printf("Hello");
}

b()
{
    printf("Bye");
    a();
}
```



Hello Bye Hello Hello

printf()
{
 ...
}

- ① You can define functions in any order
- ② Execution of program always begin from main() function.
- ③ Function executes only when it is called.
- ④ Operating System calls main()
- ⑤ Jab bhi koi function call hota hai,
Sabse pehle woh RAM mein load hota hai
- ⑥ Function jab end hota hai, tab uski memory
release hoti hai and control wapis wahin
jata hai, jahan se call hua tha.

Benefits of functions

1. Easy to Read
2. Reduce complexity
3. Easy to modify
4. Easy to debug
5. Code reusability
6. Avoids rewriting
7. Better memory utilization