

#### SNS COLLEGE OF TECHNOLOGY



## Coimbatore-36. An Autonomous Institution

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# COURSE NAME: 23CST101 PROBLEM SOLVING AND C PROGRAMMING I YEAR/ V SEMESTER

**UNIT – IV FUNCTIONS AND POINTERS** 

**Definition of Function** 

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#### **UNIT IV**



Function–Definition of function– User-defined Functions Declaration of function–Call by reference – Call by value – Recursion – Pointers – Definition – Initialization – Operations on pointers-Pointer arithmetic – Pointers and arrays–Illustrative programs.



#### **FUNCTIONS**



Function is basically a set of statements that takes inputs, perform some computation and produces output

```
Return_type function_name(set_of_inputs);

Inputs provided to the function
```

Why we are using Functions



Once the function is defined, it can be reused over and over again.

#### 2. Abstraction

If you are just using the function in your program then you don't have to worry about how it works inside!

Example: scanf function



#### **Function Declaration**



When we declare variable we declare its properties to the compiler

Function Declaration (also called function prototype)means declaring the properties of a function

```
For example: int var;
Properties:
```

Name of variable: var

2. Type of variable: int

```
For example:
                 int fun(int, char);
Properties:
    Name of function:
                              fun
2.
    Return Type of function:
                               int
    Number of parameters:
3.
                              2
    Type of parameter 1:
4.
                               int
    Type of parameter 2:
5.
                               char
```

```
finclude <stdio.h>
char fun(); //function prototype
int main()

char c = fun();
printf("character is: %c", c);

char fun()

char fun()

return 'a';
}

finclude <stdio.h>
char fun();

char c = fun();
printf("character is: %c", c);

char fun()

return 'a';
}
**C:\Users\jaspr\Desktop\Neso Academy Files\My Cool Program

character is: a

Process returned 0 (0x0) execution time: 0.1

**Return 'a';
**Press any key to continue.**

**Press any key to continue.**

**Press any key to continue.**

**Time To the continue is a continue is a continue.**

**Time To the continue is a cont
```



#### **FUNCTION DEFINITION**



#### **Function definition**

Function definition contains the block of code to perform a specific task. In our example, adding two numbers and returning it.

#### Syntax of function definition

```
returnType functionName(type1 argument1, type2 argument2, ...)
{
    //body of the function
}
```

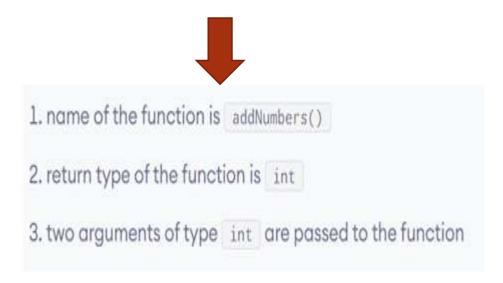
When a function is called, the control of the program is transferred to the function definition. And, the compiler starts executing the codes inside the body of a function.



#### **FUNCTION DEFINITION**



### int addNumbers (int a, int b);





#### **TYPES OF FUNCTION**



### Types of function

There are two types of function in C programming:

- Standard library functions
- User-defined functions





