**Functions Day-1 session**

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**Functions**:

Function is a block of code that perform a specific task.

**Why we need functions in programming language**

* To improve the readability of the code so that other programmers can easily understand your code well.
* To improve the reusability of the code so that same function can be used in any program rather than writing from scratch
* Debugging the code will be easier if you use functions as errors are easily traced.
* Reduce the size of the code.

**Types of Functions:**

**1.Pre defined functions:**

Standard library functions are also know as built in functions. Functions as printf(), scanf() are standard library functions. These functions are defined with .h extensions are called header files as stdio.h

**2.User defined functions**

The functions that can be created by the user is known as user defined function.

**Syntax**:

return\_type function\_name(argument\_list){

set of statements—block of code

}

**return\_type:** Return type can be of any data type such as int, double, char, void, short etc. Don’t worry you will understand these terms better once you go through the examples below.

**function\_name:**It can be anything, however it is advised to have a meaningful name for the functions so that it would be easy to understand the purpose of function just by seeing it’s name.

**argument list:**Argument list contains variables names along with their data types. These arguments are kind of inputs for the function. For example – A function which is used to add two integer variables, will be having two integer argument.

**Block of code:**Set of statements, which will be executed whenever a call will be made to the function.

**Let’s see an example of how to use functions in various programming langauges**

**C:**

int addition (int num1, int num2) {

int sum=num1+num2;

return sum;

}

int main () {

int result= addition (5,11); // Calling a function

printf(“the result is” +result);

}

**Explanation:**

* In the above code addition is the function name, int is a return data type, num1 and num2 are the function arguments
* We will be returning the sum of two integers to the result variable.
* Displaying the output in result variable.

**C++:**

int max (int num1, int num2) {

if(num1>num2)

{

return num1;

} else {

return num2;

}

}

int main (){

int result= max (5,11);

cout<<“the result is” <<result;

}

**Explanation:**

In the above code we will be calling the max function and it will return the maximum value of two numbers.

It will compare the two numbers the max function will return which is greater.

Output:

The result is 11

**Java:**

public class Main {

static void myMethod() {

System.out.println("I just got executed!");

}

public static void main(String[] args) {

myMethod();

}

}

**Explanation:**

Here myMethod will calls the function name myMethod and displays the output as I just got executed.

**Practice exercise:**

<https://www.w3schools.com/c/c_functions.php>

**Use case🡪1**

Write a function name as my function to print hello world program by using c programming

**Use case🡪2**

Write a function to find the product of two numbers

**Video Tutorial:**

<https://drive.google.com/file/d/1LAm4kubccu9pZAjEfUPM0T47DbQPULMd/view?usp=sharing>