Functions

A function is a block of code that performs a specific task.

Why are functions used?

- If some functionality is performed at multiple places in software, then rather than writing the same code, again and again, we create a function and call it everywhere. This helps reduce code redundancy.
- Functions make maintenance of code easy as we have to change at one place if we make future changes to the functionality.
- Functions make the code more readable and easy to understand.

The **syntax** for function declaration is-

```
return-type function_name (parameter 1, parameter2 …… parameter n){
    //function_body
}
```

return-type
The return type of a function is the data type of the variable that that function returns.
For eg. if we write a function that adds 2 integers and returns their sum then the return type of this function will be 'int' as we will returning sum that is an integer value.
When a function does not return any value, in that case the return type of the function is 'void'.

function_name
It is the unique name of that function.
It is always recommended to declare a function before it is used.

Parameters
A function can take some parameters as inputs. These parameters are specified along with their data types.
For eg. if we are writing a function to add 2 integers, the parameters would be passed like –

```
int add (int num1, int num2)
```

Main function

The main function is a special function as the computer starts running the code from the beginning of the main function. Main function serves as the entry point for the program.

Examples –

Ques1. Write a program to add 2 numbers using functions.

```cpp
#include <iostream>
using namespace std;

int add(int num1, int num2){
    int sum = num1 + num2;
    return sum;
}

int main()
{
    int a,b;
    cin>>a>>b;

    cout<<add(a,b)<<endl;

    return 0;
}
```

Ques2. Write a program to print a given number using functions.

```cpp
#include <iostream>
using namespace std;
```

Apni Kaksha

```cpp
void display(int a){
    cout<<a<<endl;
    return;
}


int main()
{
    int a;
    cin>>a;


    print(a);


    return 0;
}
```