# Defining a Function

Learn how to define your own function in C++.

**We'll cover the following**



# Function definition#

A function's definition tells what a function will do when it is called. The basic syntax for defining a function in C++ is:

```
return_type  function_name  ( function_parameters )
{
function_body

}
```

We have already discussed the return_type, function_name, and function_parameters in the previous lesson (https://www.educative.io/collection/page/10370001/6619096843026432/60923

18063984640). Let's discuss the function_body.

## function_body #

A function body consists of a group of statements that do a particular task. We write our function code inside the curly braces. Everything written inside the curly braces is what the function does when it is called.

## Main function#

In the code below, you see the highlighted lines in every C++ program. If you look closely at these lines, you see that the `main( )` is the function here. It is the point from where every C++ program starts its execution. Whenever the C++ program is executed, the operating system gives control to the `main` function.

> 📝 Every program in C++ must have a `main` function.

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

int main() {
  // your code goes here

  return 0;
}
```

## Anatomy of the **`main`** function#

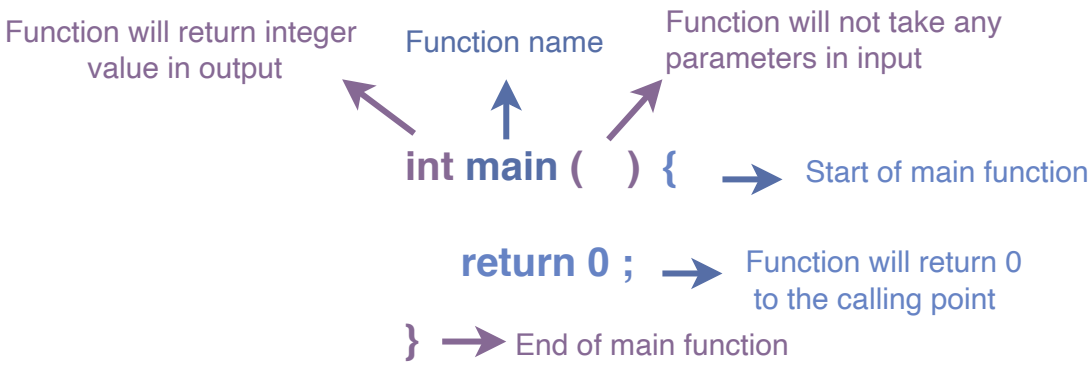
`int` specifies that the `main` function returns an integer value in the output.

`{` indicates the beginning of the `main` function.

`return 0` returns 0 to the calling point on the successful execution of the program.

> 📝**Note:** Adding a return 0 statement in a program is not mandatory.

`}` indicates the end of the `main` function.

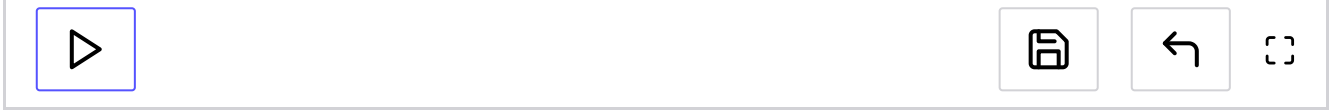



## Example program#

Consider the blender example given in this lesson (https://www.educative.io/collection/page/10370001/6619096843026432/6348964841390080). Let's declare and define a function `make_juice`.

```
#include <iostream>

using namespace std;
// Function declaration
int make_juice(int water, int fruit);

int main() {

  return 0;

}
```

```
12
13  // Function definition
14  int make_juice(int water, int fruit) {
15    // Define new  variable juice of int type
16    int juice;
17    // Adds water in apple and save output in juice
18    juice = water + fruit;
19    // Prints text on the screen
20    cout << "Your juice is ready" << endl;
21    // Returns juice value in output
22    return juice;
23
24  }
```



## Explanation#

In the code above:

**Line No. 5:** Declares the function `make_juice`.

**Lines No. 14 to 24:** Defines function `make_juice`.

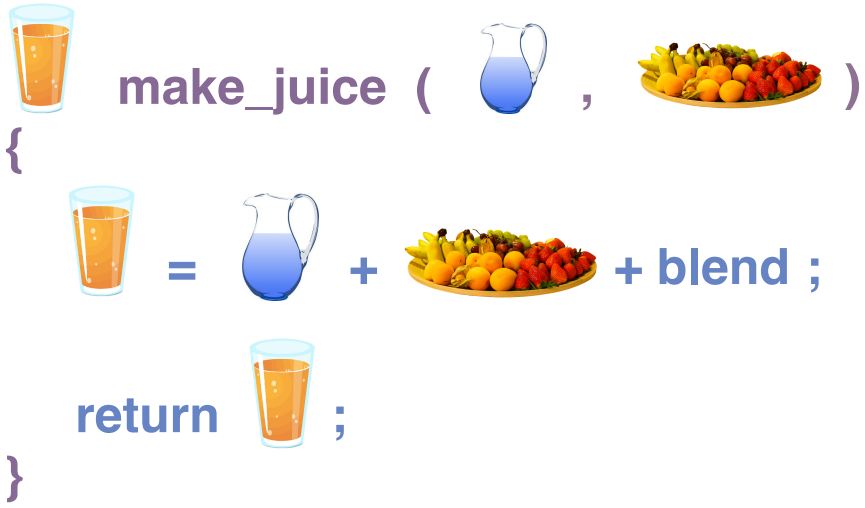
**Line No. 14:** `make_juice` is the name of the function. It takes the number of glasses of `water` and the number of `fruits` as input parameters. The function returns the number of `juice` glasses in the output.

**Line No. 16:** Declares a variable `juice`.

**Line No. 18:** Adds `water` in the `fruit` and saves the output in `juice`.

**Line No. 20:** Prints `Your juice is ready` to the console.

**Line No. 22:** Returns the number of glasses of `juice` in the output (Adding more fruit and water in the input returns a greater number of juice glasses in the output).




Quiz

Q Define a function `number_sum` that takes the `num1` and `num2` in the input and returns their sum in output. `num1` and `num2` take integer values.

(You can select multiple correct answers)

(/learn)

Selected Option

A)

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

B)

```
int number_sum (int num1 , int num2){
return sum;
}
```

Selected Option

Selected Option

C)

```
int number_sum (int num1 , int num2){
return num1 + num2;
}
```

D) All of the above

Submit Answer

Reset Quiz

That's all about defining a function. Let's learn how a function is called in a program.

See you there!

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