



Tutorial Link <https://codequotient.com/tutorials/Definition and declaration of a function/59fdd4b9e63d6b7fd5debf9a>

## TUTORIAL

# Definition and declaration of a function

## Chapter

### 1. Definition and declaration of a function

#### Topics

#### 1.4 Return a value from function

The definition of the function is piece of code which is being executed when a function called. If we use any function in our main program then it must be defined before the main function, at least the declaration must be prior to its first use. In other words, the function declaration must precede the first use of function at any other place in the whole code. So generally we provide the declarations (called prototypes) of functions at the beginning to indicate the compiler that these are the signatures of the functions which later defined in the program. Following program will demonstrate the use of function declarations and definitions.

```
1 #include <stdio.h>
2
3 int isPrime(int n);    // function declaration or
4                        // prototype before main only
5
6 int main()
7 {
8     int n, flag;
9     n = 6; //Number to be checked for prime
10    flag = isPrime(n);
```

**C**

```
10      /* n is passed to the isPrime()
function & returned value from the function is
assigned to flag variable */
11      if(flag==1)
12          printf("%d is not a prime number",n);
13      else
14          printf("%d is a prime number",n);
15      return 0;
16  }
17
18  int isPrime(int n){      // function definition starts
here.
19      int i;
20      for(i=2; i <= n/2; ++i)
21      {
22          if(n%i == 0)
23              return 1;
24      }
25      return 0;
26  }
27
```

The output of the above program will be: -

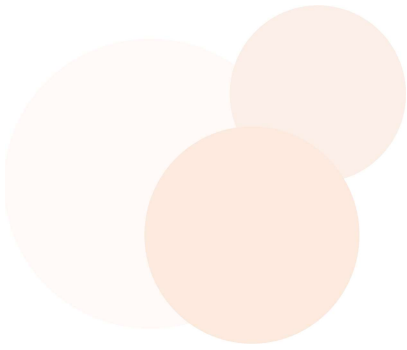
```
6 is not a prime number
```

In this the function `isPrime()` is declared at the very beginning of the code and then defined after the main function.

## Return a value from function

The return statement serves two purposes. First, it causes an immediate exit from the function. Second, it will return a value to the calling function. The statement is used in the function, when the function completes its execution and ready to terminate, but before terminating it needs to send information back to function which called this function. If a function does not return any value then no

return statement is required in the body of the function. `main()` is special function which will return an integer to the calling process (generally operating system). In the above program, the function `isPrime()` is returning an integer value to the main function. In main function this value is being assigned to a variable called `flag`, and from there onwards it is just like any other assignment statement for `flag` variable.



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