# Function Prototypes

- Ways to notify the compiler about a function before a call to the function:
  - Place function definition before calling function's definition
  - Use a function prototype (function declaration) – like the function definition without the body
    - Prototype: `void printHeading();`

## Program 6-5

```
1  // This program has three functions: main, First, and Second.
2  #include <iostream>
3  using namespace std;
4
5  // Function Prototypes
6  void first();
7  void second();
8
9  int main()
10 {
11    cout << "I am starting in function main.\n";
12    first();    // Call function first
13    second();   // Call function second
14    cout << "Back in function main again.\n";
15    return 0;
16 }
17
```

*(Program Continues)*

```
18  //****************************************
19  // Definition of function first.        *
20  // This function displays a message.    *
21  //****************************************
22
23  void first()
24  {
25     cout << "I am now inside the function first.\n";
26  }
27
28  //****************************************
29  // Definition of function second.       *
30  // This function displays a message.    *
31  //****************************************
32
33  void second()
34  {
35     cout << "I am now inside the function second.\n";
36  }
```

# Sending Data into a Function

- Can pass values into a function at time of call:

```
c = pow(a, b);
```

- Values passed to function are arguments

- Variables in a function that hold the values passed as arguments are parameters

# A Function with a Parameter Variable

```
void displayValue(int num)
{
   cout << "The value is " << num << endl;
}
```

The integer variable `num` is a parameter.
It accepts any integer value passed to the function.

## Program 6-6

```
1  // This program demonstrates a function with a parameter.
2  #include <iostream>
3  using namespace std;
4
5  // Function Prototype
6  void displayValue(int);
7
8  int main()
9  {
10    cout << "I am passing 5 to displayValue.\n";
11    displayValue(5);  // Call displayValue with argument 5
12    cout << "Now I am back in main.\n";
13    return 0;
14 }
15
```

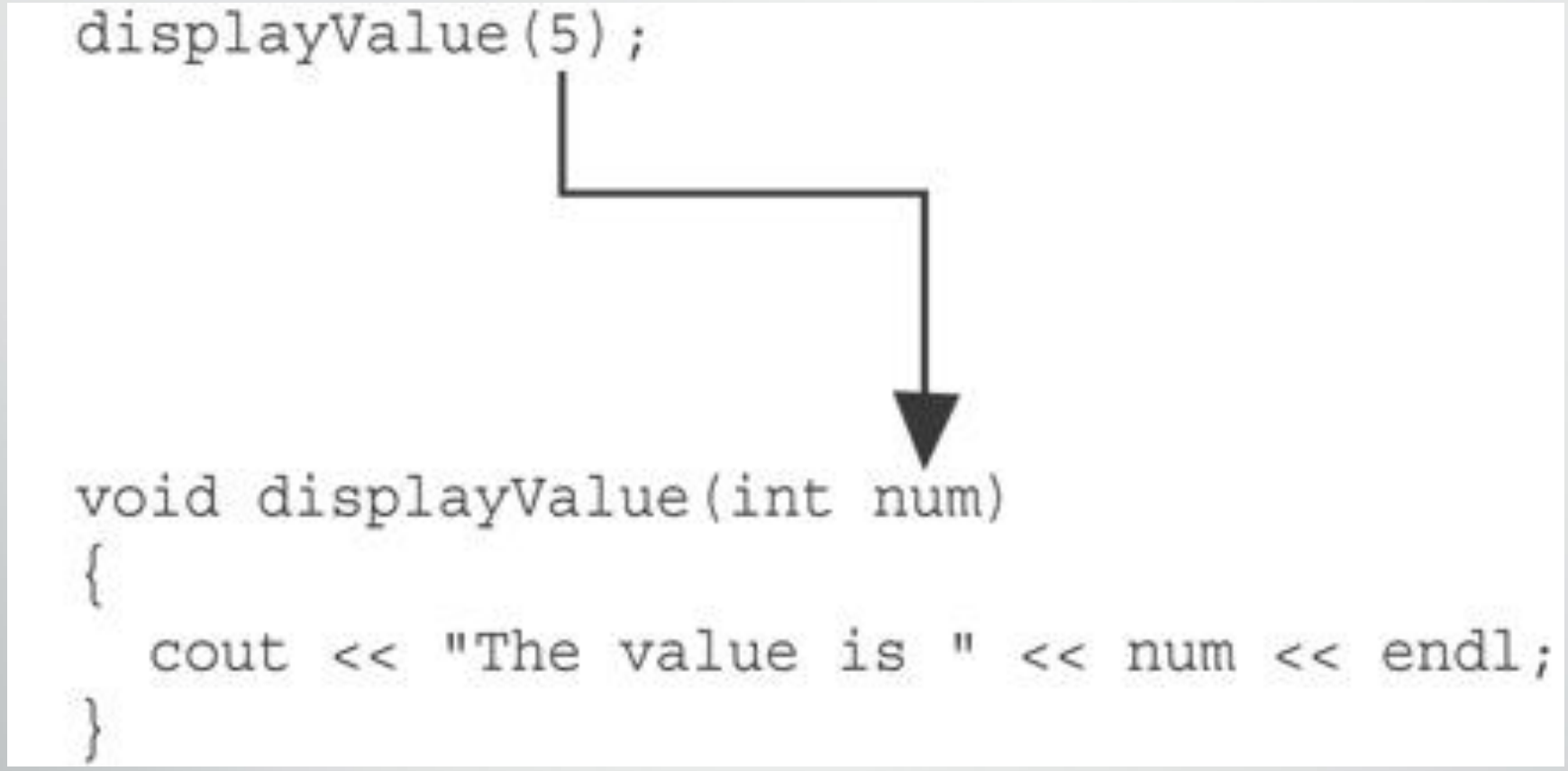
*(Program Continues)*

**Program 6-6** *(continued)*

```
16  //*********************************************************
17  // Definition of function displayValue.                   *
18  // It uses an integer parameter whose value is displayed. *
19  //*********************************************************
20
21  void displayValue(int num)
22  {
23     cout << "The value is " << num << endl;
24  }
```

**Program Output**

```
I am passing 5 to displayValue.
The value is 5
Now I am back in main.
```




The function call in line 11 passes the value 5 as an argument to the function.