Exercise 1

1. Debug below coding.

```
#include <iostream>

using namespace std;
int main(){
   /* Calling the built-in function
    * pow(x, y) which is x to the power y
    * We are directly calling this function
    */
   cout<<pow(2,5);
   return 0;
}
```

```
1
2  //q1 w4 lab
3
4  #include <iostream>
5  #include<cmath>
6  using namespace std;
7
8  int main() {
9    cout << pow(2, 5);
10   return 0;
11 }
12
```

```
32

...Program finished with exit code 0
Press ENTER to exit console.
```

2. Complete coding below to get the expected output below

```
#include <iostream>
//built in function involved

using namespace std;
//Declaring the function sum

int main(){
  int x, y;
  cout<<"enter first number: ";
  cin>> x;

  cout<<"enter second number: ";
  cin>>y;

//Calling the function

}
//Defining the function sum

}
```

Output:

```
enter first number: 22
enter second number: 19
Sum of these two :41
```

```
1  //q2 w4 lab
2
3  #include <iostream>
4  using namespace std;
5
6  int sum(int, int);
7
8  int main() {
9      int x, y;
10     cout << "enter first number: ";
11     cin >> x;
12
13     cout << "enter second number: ";
14     cin >> y;
15
16     sum(x, y);
17
18     return 0;
20
21 int sum(int m, int n) {
22     int sum;
23     sum = m + n;
24     cout << "Sum of these two: " << sum;
25     return sum;
26 }
27
```

```
enter first number: 22
enter second number: 19
Sum of these two: 41
```

3. Write a program in C++ to show the simple structure of a function.

Expected Output :

The total is : 11

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

int sum(int m = 6, int n = 5) {
  int sum;

  sum = m + n;
  cout << "the total is: " << sum;

  return sum;
}

int main() {

  sum();

  return 0;

}
```

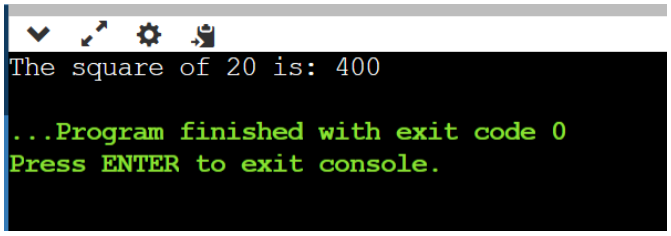
```
the total is: 11

...Program finished with exit code 0
Press ENTER to exit console.
```

4. Write a program in C++ to find the square of any number using the function.

   Test Data :
   Input any number for square : 20

   Expected Output :
   The square of 20 is : 400.00

```cpp

//q4 w4 Lab
#include <iostream>
#include <cmath>
using namespace std;

double square();

int main()
{
	square();
	return 0;
}

double square(){
	double m = 20;

	double t = pow(m, 2);

	cout << "The square of " << m << " is: " << t;
	 return t;
}
```



5. Write a program in C++ to swap two numbers using function.

Test Data :
Input 1st number : 2
Input 2nd number : 4

Expected Output :
Before swapping: n1 = 2, n2 = 4
After swapping: n1 = 4, n2 = 2

```cpp
//q5 w4 lab
#include <iostream>
using namespace std;

void swap(int, int);

int main() {

  int a, b;
  cout << "Input 1st number: ";
  cin >> a;
  cout << "Input 2nd number: ";
  cin >> b;

  swap(a, b);

  return 0;
}

void swap(int value1, int value2) {

  cout << "Before swapping: n1 = " << value1 << " n2 = " << value2 << endl;
    int temp=value1;
    value1=value2 ;
    value2=temp;

  cout << "After swapping: n1= " << value1 << " n2 = " << value2 << endl;

}
```

```
Input 1st number: 2
Input 2nd number: 4
Before swapping: n1 = 2 n2 = 4
After swapping: n1= 4 n2 = 2


...Program finished with exit code 0
Press ENTER to exit console.
```

```cpp
//void to int
#include <iostream>
using namespace std;
void calcArea(float, float); // function prototype

int main() {

  float length, width;
  cout << "Enter the length and width of rectangle: " << endl;
  cin >> length >> width;

  calcArea(length, width); // function call

  return 0;
}

void calcArea(float l, float w) {
  float area;

  area = l * w;
  cout << "The area is " << area << endl;

}
```

```
Enter the length and width of rectangle:
12 12
The area is 144


...Program finished with exit code 0
Press ENTER to exit console.
```

```cpp
//void to int
#include <iostream>
using namespace std;
double calcArea(double, double); // function prototype

int main() {

  double length, width;
  cout << "Enter the length and width of rectangle: " << endl;
  cin >> length >> width;

  calcArea(length, width); // function call

  return 0;
}

double calcArea(double l, double w) {
  double area;

  area = l * w;
  cout << "The area is " << area << endl;
  return area;
}
```

```
Enter the length and width of rectangle:
12 12
The area is 144


...Program finished with exit code 0
Press ENTER to exit console.
```