

Computer Systems & Programming

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Home Tasks of Lab Manual 2

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Home Task # 1: Write a C++ program to calculate distance between two points. The values of coordinates should be input by user.

```
Start here X Home Task #1(Manual 2).cpp X
1 //Library
2 #include <iostream>
3 using namespace std;
4 //scope
5 int main() {
6     //Declaring the variables
7     int x1 ;
8     int x2 ;
9     int y1;
10    int y2;
11    int x;
12    int y;
13    int z;
14    //Get the value of x1
15    cout << "Enter value of x1: ";
16    cin >> x1;
17    //Get the value of x2
18    cout << "Enter value of x2: ";
19    cin >> x2;
20    //Get the value of y1
21    cout<<"Enter value of y1: ";
22    cin >> y1;
23    //Get the value of y2
24    cout<<"Enter the value of y2: ";
25    cin>>y2;
26    x=(x2-x1)*(x2-x1);
27    y=(y2-y1)*(y2-y1);
28    // Calculate the result
29    z = x + y ;
30    // Display the result or Output
31    cout << "The distance between 2 points is = " << z << endl;
32
33    return 0;
34 }
35
```

```
"C:\Users\syedf\OneDrive\Do  X + v
Enter value of x1: 1
Enter value of x2: 2
Enter value of y1: 3
Enter the value of y2: 4
The distance between 2 points is = 2

Process returned 0 (0x0)   execution time : 5.513 s
Press any key to continue.
```

Home Task # 2: Write a code in C++ to take length from user in centimeter and convert it into meter and kilometer.

```
Start here X Home Task #2(Manual 2).cpp X
1 //library
2 #include <iostream>
3 using namespace std;
4 //scope
5 int main() {
6 //Declaring the variables
7 float a;
8 float b;
9 float c;
10 //Get Length in cm from user
11 cout << "Enter length in centimeter: ";
12 cin >> a;
13 // Converting centimeter into meter and kilometer.
14 b = a / 100.0;
15 c = a / 100000.0;
16 //Display the result
17 cout << "Length in m = " << b << endl;
18 cout << "Length in km = " << c << endl;
19
20 return 0;
21 }
22
```

```
"C:\Users\syedf\OneDrive\Do  X + v
Enter length in centimeter: 54
Length in m = 0.54
Length in km = 0.00054

Process returned 0 (0x0)   execution time : 3.570 s
Press any key to continue.
```

Home Task #3: Write a code in C++ that takes values of a and b from the user and displays result of polynomial $a^2 + 2ab + b^2$.

```
Start here X Home Task #3(Manual 2).cpp X
1 //library
2 #include <iostream>
3 using namespace std;
4 //scope
5 int main() {
6 //Declaring the variables
7 int a ;
8 int b ;
9 int result;
10 //Get the value of a
11 cout << "Enter value of a: ";
12 cin >> a;
13 //Get the value of b
14 cout << "Enter value of b: ";
15 cin >> b;
16 // Calculate the result of the polynomial
17 result = a * a + 2 * a * b + b * b;
18 // Display the result
19 cout << "Result of the polynomial a^2 + 2ab + b^2 = " << result << endl;
20
21 return 0;
22 }
23
```

```
"C:\Users\syedf\OneDrive\Do X + v
Enter value of a: 1
Enter value of b: 2
Result of the polynomial a^2 + 2ab + b^2 = 9

Process returned 0 (0x0) execution time : 5.379 s
Press any key to continue.
```

Home Task #4: Write a program in C++ to convert temperature in Fahrenheit to Celsius.

```
Start here X Home Task #4(Manual 2).cpp X
1 //library
2 #include <iostream>
3 using namespace std;
4 //scope
5 int main() {
6 //Declaring the variables
7 double f;
8 double c;
9 //Get the temperature in Fahrenheit
10 cout << "Enter temperature in Fahrenheit: ";
11 cin >> f;
12 // Converting Fahrenheit to Celsius.
13 c = (f - 32.0) * 5.0 / 9.0;
14 //Display the result
15 cout << "Temperature in Celsius = " << c << endl;
16 return 0;
17 }
18
```

```
"C:\Users\syedf\OneDrive\Do X + v
Enter temperature in Fahrenheit: 273
Temperature in Celsius = 133.889

Process returned 0 (0x0) execution time : 4.682 s
Press any key to continue.
```