

### Department of Mechanical Engineering

# CS-114 - Fundamental of Programing

## Lab Manual # 02

Course Instructor: Dr Jawad Khan

Lab Instructor: Muhammad Affan

Student Name: Ramzan Sameer

CMS ID: 464899

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Q1. Write a C++ program to calculate distance between two points. The values should of coordinates should be input by user:

Code and Result:

```
File Edit Search View Project Execute Tools AStyle Window Help
(globals)
Project Classes Debug
                 assigmnet q1.cpp
                                                                                     C:\Users\User\Desktop\assigmnet q1.exe
                  1 //distance formula Question 1;
                     #include<iostream>
                                                                                      nter the value of the coordinates y1 and y2 :78
                  3
                      #include<math.h>
                  4
                     using namespace std;
                                                                                      esult = 42.45
                  5
                      int main()
                  6₽ {
                                                                                      ocess exited after 6.092 seconds with return value
                  7
                          int x1,x2,y1,y2;
                  8
                          cout << "enter the value of the coordinates x1 and x2 :";
                                                                                      ress any kev to continue . . .
                  9
                          cin>> x1 >> x2:
                          cout<<"enter the value of the coordinates y1 and y2 :";
                 10
                 11
                          cin>> y1 >> y2;
                 12
                          int res1 = (x2-x1);
                 13
                          res1 = pow(res1, 2);
                 14
                          int res2 = (y2-y1);
                 15
                          res2 = pow(res2,2);
                 16
                          double res3 = (res1 + res2);
                 17
                          res3 = pow(res3,0.5);
                          cout<<"Result = " << res3 << endl;
                 18
                 19
                          return 0;
                 20
Compiler Resources Compile Log Debug 🖟 Find Results 🕸 Close
```

Q2. Write a code in C++ to take length from user in centimeter and convert it into meter and kilometer:

Code and Result:

```
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
                   assigmnet q1.cpp Untitled-2.cpp assignmennt q2.cpp
                    1 //cm to m and cm to km question 2;
                        #include<iostream>
                    3
                        using namespace std;
                    4
                        int main()
                    5 ₽ {
                    6
                            double a,b,c,d;
                             cout<< "please enter the value of a which is in Centimetres to be converted into metres=";
                    8
                             cin>> a;
                    9
                            double res1 = a/100;
cout << " cm to m = " << res1 <<endl;</pre>
                   10
                             cout<<" please enter the value in cm to be converted into km=";
                   11
                   12
                             cin>> b;
                        // res1 = a/1000;
                   13
                                                                                      ■ Select C:\Users\User\Desktop\assignmennt q2.exe
                            double res2 = b/1000;
                   14
                                                                                      please enter the value of a which is in Centimetres to be conver
                            res2 = b/1000;
                                                                                      into metres=33
                                                                                      cm to m = 0.33 please enter the value in cm to be converted into km=33
                   16
                             cout<<"cm to km = "<< res2 << endl;
                   17
                                 return 0;
                      L
                                                                                       m to km = 0.033
                   18
                                                                                      Process exited after 3.849 seconds with return value 0
                                                                                       ess any key to continue . .
```

Q3. 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:

### Code and Result:

```
C:\Users\User\Desktop\Asssigmnet a3.cpp - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
 (globals)
                                                                                             nter the value of the coordinates x1 and x2 :33
Project Classes Debug assignmet q1.cpp Untitled-2.cpp assignmennt q2.cpp Asssignmet q3.cpp
                    1 // formula (a+b)^2 question 3;
2 #include<iostream>
                                                                                            enter the value of the coordinates y1 and y2 :44
                        using namespace std;
                        int main()
                    5 □ {
                                                                                             rocess exited after 48.91 seconds with return value 0 ress any key to continue . . .
                    6
                            int a,b;
                            cout<<" enter the value of a and b= ";
                    8
                            cin >> a >> b;
                    9
                            int res = a*a +2*a*b + b*b;
                   10
                            cout<< "result :";
                            cout << res;
                   11
                   12
                            return 0;
                   14
```

Q4. Write a program in C++ to convert temperature in Fahrenheit to Celsius:

### Code and Result:

```
C:\Users\User\Desktop\Assigment q4.cpp - [Executing] - Dev-C++ 5.11
                                                                                                                                       File Edit Search View Project Execute Tools AStyle Window Help
 (globals)
Project Classes Debug assignment q1.cpp Untitled-2.cpp assignment q2.cpp Assignment q3.cpp Assignment q4.exe Assignment q4.cpp C3.Users\Desktop\Assignment q4.exe
                   1 // Degree F to Degree C;
                                                                                        please enter the temp in Fahrenheit = 4445
                       #include<iostream>
                                                                                         legree F to Degree celsius = 2206.5
                    3 #include<math.h>
                    4
                       using namespace std;
                                                                                         rocess exited after 10.35 seconds with return value 0
                       int main()
                                                                                          ess any key to continue . . .
                    6 ₽ {
                    7
                    8
                       cout << "please enter the temp in Fahrenheit = ";
                   9
                       cin>> f:
                       double res1 = ((f-32)*0.5);
                   10
                       cout << "degree F to Degree celsius = "<< res1;
                   11
                   12
                       return 0;
🔐 Compiler 🖷 Resources 🋍 Compile Log 🧳 Debug 🔼 Find Results 🍇 Close
```