School Of Mechanical & Manufacturing Engineering, NUST

Department of Mechanical Engineering

CS-114 - Fundamental of Programing

Lab Manual # 02

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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:


```cpp
//distance formula Question 1;
#include<iostream>
#include<math.h>
using namespace std;
int main()
{
    int x1,x2,y1,y2;
    cout<<"enter the value of the coordinates x1 and x2 :";
    cin>> x1 >> x2;
    cout<<"enter the value of the coordinates y1 and y2 :";
    cin>> y1 >> y2;
    int res1 = (x2-x1);
    res1 = pow(res1,2);
    int res2 = (y2-y1);
    res2 = pow(res2,2);
    double res3 = (res1 + res2);
    res3 = pow(res3,0.5);
    cout<<"Result = " << res3 << endl;
    return 0;
}
```

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

Code and Result:


```cpp
//cm to m and cm to km question 2;
#include<iostream>
using namespace std;
int main()
{
    double a,b,c,d;
    cout<< "please enter the value of a which is in Centimetres to be converted into metres=";
    cin>> a;
    double res1 = a/100;
    cout << " cm to m = " << res1 <<endl;
    cout<<" please enter the value in cm to be converted into km=";
    cin>> b;
//  res1 = a/1000;
    double res2 = b/1000;
//  res2 = b/1000;
    cout<<"cm to km = "<<  res2 << endl;
    return 0;
}
```

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:

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

Code and Result: