LAB HOME TASK

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Q1)

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

int main(){

//Taking length input from user in cm and outputting it in meteres and kilometeres

double length=0;
cout<<"Enter a length in cm: "<<endl; //taking user input
cin>>length;

double l_meter = length / 100; //converting to meter
double l_km = length / 1000; //converting to kilometer

cout<<"Your length in meters is "<<l_meter<<"m"<<endl;
cout<<"Your length in kilometers is "<<l_km<<"km"<<endl;
```

Q2)

```
// Taking two values from the user and using them to calculate polynomial
double a,b;
cout<<"Enter values for 'a' and 'b': "<<endl; //taking user input
cin>>a>>b;

double poly = pow(a,2) + pow(b,2) + (2*a*b); //calculating polynomial
cout<<"Your answer is "<<poly<<endl;
```

Q3)

```
//Taking temperature input from user in fahrenhiet and outputting it in degree Celsius
double temp_f;

cout<<"Enter temperature value in fahrenheit: "<<endl; //taking user input in fahrenhiet
cin>>temp_f;
double temp_c = (temp_f - 32) * 5/9; //coverting input to celcius
cout<<"Temperature in Celsius is "<<temp_c<<endl;
```

Q4)

```
//Taking two cordinates as input from user and outputting the distance between them
double x1,y1,x2,y2;
cout<<"Enter two cordinates in the form (x,y): "<<endl; //taking user input in cordinate form
cin>>x1>>y1>>x2>>y2;

double distance = pow((pow(x1-x2,2) + pow(y1-y2,2)),0.5); //calculating distance
cout<<"The distance between these points is: "<<distance<<endl;

//the distance formula in the question sheet was incorrect so i have calculated using the correct one
}
```