Computer Laboratory - lab sheet 2

Task 1 Copy the program given below. Save (as `lc.cpp`), compile and run it.

```
// Length Converter converts
// a given length in m to other units
#include <iostream>
using namespace std;
#define FT 3.280839895013 // foot
#define YD 1.093613298338 // yard
int main(){
double x;
const double IN=1.0e+2/2.54; //inch
enum { MM=1000, CM= 100, DM= 10 };
cout << "Input a lenght in meters: ";
cin >> x;
cout << "This lenght is  " << endl;
cout << x*MM << " mm" << endl;
cout << x*CM << " cm" << endl;
cout << x*DM << " dm" << endl;
cout << x*IN << " inch" << endl;
cout << x*FT << " foot" << endl;
cout << x*YD << " yard" << endl;
system("PAUSE");
return 0;
```

Task 2) Write a program that prompts the user to enter Cartesian coordinates of two points (x1,y1) and (x2,y2) and display the distance in between them using the equation; Distance=$\sqrt{(x1-x2)^2+(y1-y2)^2}$

Ex: Please enter the side x and y coordinates of First point: 1 5

Please enter the side x and y coordinates of Second point: 4 7

Distance between two points=3.60555

Task 3) We will write a program that calculates the cost for a rental car trip. We have to pay 0.5 TL for each kilometer we drove the car. We also have to pay 5 TL for each day we rented the car. We have to pay 15% tax for the summed kilometer and daily payment.

Ex: Please enter the initial kilometer reading=1000

Please enter the final kilometer reading=1500

Please enter the number of days you rented the car=4

You travelled 500 kilometers during 4 days

Your distance cost =250

Your daily cost =20

Your cost before tax =270

Your tax amount =40.5

Your total cost =310.5

Task4) Write a C++ code that will read the geometric code of a shape, and lengths of the shape. It will give the area of the shape. The code should work only for square or rectangle. User will enter “S” or “s” for square computation or “R” or “r” for rectangle computation. For square only one length will be requested from user. For rectangle two lengths will be requested. Use if else structure to test if the shape is square or rectangle.

Ex1: Enter S or s for selecting Square :

Enter R or r for selecting Rectangle :

S

****

Enter the side of a square

5.1

The area of the square=26.01

Ex2: Enter S or s for selecting Square :

Enter R or r for selecting Rectangle :

r

****

Enter the two sides of the rectangle

2.0 3.0

The area of the rectangle=6