Lab Assignment - 6

1. WAP illustrating the execution of constructors in multi-level inheritance with three classes – plate(length, width), box(length, width, height), wood box (length, width, height, thick).

2. WAP with a mother class and an inherited daughter class. Both of them should have a method void display () that prints a message (different for mother and daughter). In the main function, define a daughter object and call the display() method on it.

3. WAP that defines a shape class with a constructor that gives value to width and height. Then define two sub-classes triangle and rectangle, that calculate the area of the shape. In the main, define two variables a triangle and one variable of rectangle and then call the area() function for those variables.

4. A plastic manufacturer sells plastic in different shapes like 2D sheet and 3D box. The cost of sheet is Rs 40/ per square ft. and the cost of box is Rs 60/ per cubic ft. WAP to calculate the cost of plastic as per the dimensions given by the user.
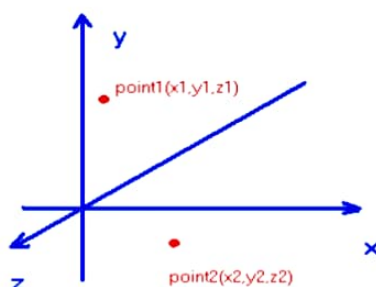
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Lab Assignment – 6 cont...

5. Consider the following two points in a 3D space. WAP to input and calculate the Euclidean distance and Manhattan distance between the two points.

Euclidean distance : $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2}$

Manhattan distance : $|x_2 - x_1| + |y_2 - y_1| + |z_2 - z_1|$

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Lab Assignment - 6

6. WAP to represent a student class with roll no, name and section and a test class (derived class of student) representing the scores of the student in 5 subjects and sport class (derived class of student) representing the score in a sport. The sport and test class should be inherited by a result class having the functionality to add the scores and display the final result for a student.