**Problem #1**

**Point of Interest**

Write a program that can detect whether a point is inside or outside a rectangle. The rectangle’s sides are parallel to the axes of the XY plane. Your input are x, y coordinates of 3 points (assume integer coordinates). The first 2 points respectively represent the bottom left and top right corners of the rectangle. The 3rd input point is the query point. If the query point is inside or on the boundary of the rectangle, print “Inside the rectangle”. Otherwise print “Outside the rectangle”.

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| --- | --- |
| **Sample Input(s)** | **Corresponding Output(s)** |
| 0 0 10 5 2 2  0 0 10 5 5 10  0 0 10 5 0 4  0 0 10 5 3 2 | Inside the rectangle  Outside the rectangle  Inside the rectangle  Inside the rectangle |

**Problem #2**

**Accounting**

In this problem, you are given the price of some commodity. For first 100 units, the rate is 0.5 Taka / unit. For the next 100 units, it is 0.8 taka / unit. Then onward, the price is 1.2 taka/unit. Your input is an integer representing the number of units bought by the customer. You must output a floating point number representing the total price. You must solve this problem using switch statement(s). If-else or ternary operator and logical connectors are not allowed in this problem.

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| **Sample Input(s)** | **Corresponding Output(s)** |
| 100  200  300 | 50  130  250 |