# Working with Abstraction: Lab

This document defines the lab for ["Java Advanced" course @ Software University](https://softuni.bg/modules/59/java-advanced). Please submit your solutions (source code) of all below described problems in [Judge](https://judge.softuni.bg/Contests/1575/Working-with-Abstraction-Lab).

## Point in Rectangle

Create a class **Point** and a class **Rectangle**. The **Point** should hold **coordinates X** and **Y** and the **Rectangle** should hold 2 **Points** – its **bottom** **left** and **top** **right** corners. In the **Rectangle** class, you should implement a contains(Point point) method that returns **true** or **false**, based on **whether** the **Point** given as **attribute** is **inside** or **outside** of the **Rectangle** object. Points **on** **the** **side** of a Square are considered **inside**.

### Input

* On the first line read the **coordinates** of the **bottom** **left** and **top** **right** corner of the **Rectangle** in the format: “**<bottomLeftX> <bottomLeftY> <topRightX> <topRightY>**”.
* On the second line, read an integer **N** and on the next **N** lines, read the **coordinates** of **points**.

### Output

* For each point, print out the result of the Contains() method.

### Examples

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **input** | **output** |  | **input** | **output** |  | **input** | **output** |
| 0 0 3 3  5  0 0  0 1  4 4  5 3  1 2 | true  true  false  false  true |  | 2 -3 12 3  4  8 -1  11 3  1 1  2 4 | true  true  false  false |  | 5 8 12 15  6  0 0  5 8  12 15  8 15  7 15  8 12 | false  true  true  true  true  true |

## Hotel Reservation

Create a class **PriceCalculator** that calculates the total price of a holiday, given the **price** **per** **day**, **number** **of** **days**, the **season** and a **discount** **type**.The **discount** **type** and **season** should be **enums**.

Use the class in your **main()** method to read input and **print** on the console the **price** of the **whole** **holiday**.

The price per day will be multiplied depending on the season by:

* **1** during **Autumn**
* **2** during **Spring**
* **3** during **Winter**
* **4** during **Summer**

The discount is applied to the total price and is one of the following:

* **20**% for VIP clients - **VIP**
* **10**% for clients, visiting for a second time - **SecondVisit**
* **0**% if there is no discount - **None**

### Input

On a **single** **line** you will receive all the **information** about the **reservation** in the format:  
“**<pricePerDay> <numberOfDays> <season> <discountType>**”, where:

* The price per day will be a valid decimal in the range [0.01…1000.00]
* The number of days will be a valid integer in range [1…1000]
* The season will be one of: **Spring**, **Summer**, **Autumn**, **Winter**
* The discount will be one of: **VIP**, **SecondVisit**, **None**

### Output

On a **single** **line**, print the **total** **price** of the **holiday**, rounded to **2** **digits** after the decimal separator.

### Examples

|  |  |
| --- | --- |
| **input** | **output** |
| 50.25 5 Summer VIP | 804.00 |
| 40 10 Autumn SecondVisit | 360.00 |
| 120.20 2 Winter None | 721.20 |