

CSC 230 Elementary Data Structures and Algorithms
Spring 2014 - Assignment 1
Due Wednesday, January 29, 2014, 8:00am

Assignment 1 Skills

Using Arrays

Writing methods given a specification

Assignment 1 Background

Consider a software system that models a **StoreShelf**. A **StoreShelf** has *M* shelves, each with *N* spaces for holding a **Product**. We can model this with an *MxN* array.

The **Product** class was discussed in class.

The incomplete declaration for the **StoreShelf** is shown below. You will complete the declaration and write two unrelated methods for the **StoreShelf** class.

```
1 public class StoreShelf {
2     /**
3      * The spaces on the shelf. Each array element holds a reference
4      * to a Product that is displayed in that space.
5      * A null reference indicates an empty space.
6      */
7     private Product [][] spaces;
8
9     public StoreShelf(int m, int n) {
10         spaces = new Product[m][n];
11     }
12
13     /**
14      * Method to add Products to the StoreShelf
15      */
16     public void addProduct(int m, int n, Product p) {
17         spaces[m][n] = p;
18     }
19
20     /**
21      * Returns the price of the Product with the specified name.
22      * Returns -1 if there is no Product with the specified name.
23      * NO 2 PRODUCTS WILL HAVE THE SAME NAME
24      */
25     public double getPrice(String productName){}
26
27     /**
28      * Checks each space, if the Product count is below 10,
29      * the Product Information should be printed to Standard Out
30      * Once all spaces have been checked the line
31      * 'End of List' should be printed.
32      */
33     public void printRestockList() {}
34
35 }
```

Assignment 1 Requirements

- 40% - Write the `StoreShelf` method `getPrice`.
- 50% - Write the `StoreShelf` method `printRestockList`.
- 10% - Provide comments where appropriate.

Assignment 1 Submission Submit on Blackboard:

1. `StoreShelf.java`

Required Each submitted file should include your name and a statement that this is your own work. This should appear as a comment at the beginning of any code file.