

King Saud University

Collage of Computer and Information Sciences

Lab 2

Product
- Name: String - Price: double - Indoor: boolean - Quantity: int
+ Product(name: String, price: double, q:int, indoor:boolean) + Setters/getters + Read(): void + Display(): void

Store
- Items: Product[] - nbProduct: int
+ Store(size: int) + Search(pName: String): int + Add(Product P): boolean + DisplayAll(): void + CountIndoor(): int + Buy(pName: String,q:int): double + Delete(pName: String): boolean + Setters/getters

Item

- **Name:** (String)

An object that holds product name. E.g. Toy, ball.

- **Price:** (double)

An object that holds the product's price.

- **Indoor:** (boolean)

An object that indicates if the product is designed to be used inside the home or not.

- **Quantity:** (int)

An object that holds the quantity of a product.

+ **Product(name: string, price: double, q:int, indoor: boolean)** *hint, use "this".*

Copy constructor.

Setters and Getters: To set and get the value of each attribute (Name, Price, Indoor, Quantity).

+ **Read ():**

This method asks the user to input the value for each of the attributes above.

+ **Display ():**

Show the product info in the following format:
Name:Ball–Price:5.5 SR–Indoor:Yes– Quantity:4

Store

- **Items:** (Product [])

Array to hold available products in the store.

- **nbProduct:** (int)

Keep track of items in the store.

+ **Store(size: int)** Constructor.

+ **Search(pName: String): int**

This method will return the index of the product if it exists, -1 otherwise.

+ **Add(Product P): boolean**

Adds an item to the store. It will return true if successfully added, false otherwise. Hint, use search

+ **DisplayAll(): void**

Prints the attributes of all the products in the store.

+ **CountIndoor(): int**

Returns the number of items that can be used indoor.

+ **Buy(pName: String, q:int): double**

In order to buy, we need to check first if there is an available quantity q of the product. If there was enough of it, we subtract the quantity by q and return the total price of the purchase, -1 otherwise if not available.

+ **DeleteProduct(pName: String): boolean**

This method deletes a product using its name.

King Saud University
Collage of Computer and Information Sciences

Lab 2

Once you are done writing the classes, you need to test your work by implementing the class Lab2 with main method. Your store can hold up to 10 items and shows the following menu:

IMPORTANT: Your menu should be the same as this.

Please choose one of the following options:

- 1 - Add an Item.
 - 2 - Display all the Items.
 - 3 - How many Indoor Items?
 - 4 - Buy an Item (Ask for the item name and quantity).
 - 5 - Delete an Item (Ask for the item name).
 - 9 - Exit
-

Helpful tips and hints:

- To auto generate Getters and setters go to
Source -> Generate Getter and Setter
Or just type set and press Ctrl + Space for the variable you just added.
- To invoke the Auto Formatter for your code : Ctrl + Shift + F
- For auto complete: Ctrl + space
- To Undo: Ctrl + z
To Copy: Ctrl + c
To Paste: Ctrl + v
To Save: Ctrl + s
- - private, + public, # protected.