Exercise Lab 03

Question # 01:

Create a class called board marker with the following attributes:

- Company (Dollar, etc)
- Color (black, red, etc)
- Refillable (Boolean- either it's refillable or not)
- Ink status (Boolean- ink empty or not)

Create appropriate getters and setters for the attributes of your class. Create the following additional methods:

1. A method to write with the board marker. You have to write a check that first checks if the ink is empty. The method should display a message accordingly.
2. A method to refill the board marker. The method should first check if the marker is refillable or not, then display an appropriate message.

Demonstrate your class by creating an object, setting the values and then calling the functions.

Question # 02:

Create a class called water bottle.

The water bottle has a company (made by), color and water capacity. The water capacity is stored in both liters(*l*) and milliliters(*ml*).

Create variables and methods for your class. Methods should include getters and setters.

Also create an additional method that updates the water capacity (both in *l* and *ml*) after asking user how much water a person has drank. Assume that the user always enters the amount in *ml*.

Demonstrate the functionality of the water bottle in your main method.

Question # 03:

Create a class called calendar.

The calendar should have 12 arrays for each month of the year, and a variable that stores information about the current year.

The user is allowed to store their tasks to do against each day. Assume only one entry is needed per day.

Create the following methods for your class:

1. Add a task. This function accepts three parameters: task details, date and month. It should add a task on the day specified.
2. Remove a task. Accepts the date and month as a parameter to remove the task from.
3. Show tasks. This method should go through all of your months and print all the tasks allocated.

Your task is to create one calendar object, then hardcode 5-6 tasks for your calendar. Then demonstrate how you'll remove a task, and display the updated task list.

Question # 04:

Create a class called Smartphone with the following attributes:

- Company
- Model
- Display Resolution
- RAM
- ROM
- Storage

Create getter and setter methods for your attributes. A smartphone has some specific actions that it canperform.

For example:

1. Make a phone call
2. Send a message
3. Connect to the wifi
4. Browse the internet

Create different smartphone objects. Set their attributes using the setter functions, and display theirattributes after using the getter functions to fetch the attributes.

Question # 05:

Create a class for a stationary shop.

The stationary shop maintains a list for all the items that it sells (hint: array of strings), and another listwith the prices of the items (hint: array of prices).

Create a menu-driven program to:

1. Allow the shop owner to add the items and their prices.
2. Fetch the list of items
3. Edit the prices of the items
4. View all the items and their prices

Create a receipt that the shopkeeper can share with their customers. The receipt can only becreated after the shopkeeper inputs the items and their amounts bought by the customer.