

## CENG 202 Data Structure

### Lab Assignment 1 (12/03/2021)

Due date: (17/03/2021 at 23.55 on AYBUZEM)

You are given a **Product** class in the second page. Just like the arrays of primitive types in Java like (**int arrays, float arrays, etc.**) create your own **data structure** called **ProductArray** without using ArrayList.

This **ProductArray** data structure needs to have:

- A **constructor** which sets the size of array.
- A **search** function which returns **Product**.
- An **insert** function
- A **delete** function
- A **display** function

Since this will be your **data structure** you need to cover the critical parts in this data structure. For example, if the array is full then you can't add any more item. Think about the critical parts and cover them.

After you created your **ProductArray** data structure, write a class named **TestProductArray** and do the followings:

- Create a product array sized **50**.
- Insert 10 items in your array.
- Display the array.
- Search for 2 items. (One is in the array and the other one is not)
- Delete 3 item. (2 of them are in the array and the third one is not)
- Display the array.

Please use **short comments** in the parts that you seemed necessary.

```
class Product {  
    private String name;  
    private String description;  
    private int price;  
    //-----  
    public Product(String name_, String description_, int price_) {  
    // constructor  
        name = name_;  
        description = description_;  
        price = price_;  
    }  
    //-----  
    public void displayProduct() {  
        System.out.print("    Product name: " + name);  
        System.out.print(", Description: " + description);  
        System.out.println(", Price: " + price);  
    }  
    //-----  
    public String getName() // get name of product  
    {  
        return name;  
    }  
} // end class Product
```