

## CSE1007 Java Programming. Fall Semester. 2-September-2021

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Lab Activity 2

### Question:

Lab Activity-2 [CO2 4-Mark]

Deadline 03/09/2021 at 11.59pm for 100%, for 70% at 11.59am 04/09/2021

For a Mobile Shop project create the classes with the following

- (i) Create "**Telephone**" class with member details mobile\_id(Long 10 digits), model\_name and available\_quantity. Member functions get() and display().
- (ii) Create "**Smart\_Phone**" class with details mobile\_id(Long 10 digit), enabled\_5G(True/False), foldable(True/False) and dual\_screen(True/False). Member functions get() and display().

**Note:** Create the array of objects for **Telephone** and **Smart\_Phone** class to test the five inputs for each class.

### Solution:

#### Sell.java:

```
package Smart;

import java.util.*;

public class Sell {
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);

        ArrayList<Smart_Phone> sp = new ArrayList<Smart_Phone>();

        //Smart_Phone sp = new Smart_Phone();

        //sp.set_mobile_id(95417);
        //sp.set_model_name("SM-9503");
        //sp.set_enabled_5G(true);
        //sp.set_foldable(false);
        //sp.set_dual_screen(false);

        //sp.customer_buy();

        while(true) {
            int tmp;

            System.out.println("\n What would you like to do?");
            System.out.println("1. Add a new Mobile Model.");
            System.out.println("2. Modify existing Mobile Model.");
```

```
System.out.println("3. Delete a Mobile Model.");
System.out.println("4. Sell a Mobile Model.");
System.out.println("5. Exit \n");

tmp = sc.nextInt();
sc.nextLine();

if(tmp == 1) {
    Smart_Phone sm = new Smart_Phone();
    String tmp2;
    int tmp3;
    boolean tmp4;

    System.out.println("\nEnter the Mobile Id: ");
    tmp3 = sc.nextInt();
    sc.nextLine();
    sm.set_mobile_id(tmp3);

    System.out.println("Enter the Model Name: ");
    tmp2 = sc.nextLine();
    sm.set_model_name(tmp2);

    System.out.println("Enter the quantity available: ");
    tmp3 = sc.nextInt();
    sc.nextLine();
    sm.set_available_quantity(tmp3);

    System.out.println("Enter if it has 5G connectivity or not? (true or false)");
    tmp4 = sc.nextBoolean();
    sc.nextLine();
    sm.set_enabled_5G(tmp4);

    System.out.println("Enter if it is foldable or not? (true or false)");
    tmp4 = sc.nextBoolean();
    sc.nextLine();
    sm.set_foldable(tmp4);

    System.out.println("Enter if it is dual screen or not? (true or false)");
    tmp4 = sc.nextBoolean();
    sc.nextLine();
    sm.set_dual_screen(tmp4);

    sp.add(sm);

    System.out.println();
}

else if(tmp == 3) {
    Smart_Phone p;
```

```
System.out.println("\nWhich model do you want to delete?");
for(int i = 0; i < sp.size(); i++) {
    p = sp.get(i);

    System.out.println(i+1 + ". " + p.mobile_id + " - " + p.model_name);
}

int tmp2;
tmp2 = sc.nextInt();
sc.nextLine();
p = sp.get(tmp2-1);
sp.remove(tmp2-1);

System.out.println(p.mobile_id + " - " + p.model_name + " has been removed
successfully.");
}

else if(tmp == 2) {

    Smart_Phone p;

    System.out.println("\nWhich model do you want to modify?");
    System.out.println("The output will be in the format: ");
    System.out.println("Mobile ID - Model Name - Available Quantity - Enabled 5
G - Foldable - Dual Screen");
    for(int i = 0; i < sp.size(); i++) {
        p = sp.get(i);

        System.out.println(i+1 + ". " + p.mobile_id + " - " + p.model_name + "
- " + p.available_quantity + " - " + p.enabled_5G + " - " + p.foldable + " - " + p.dual_
screen);
    }

    int tmp3;
    tmp3 = sc.nextInt();
    sc.nextLine();

    p = sp.get(tmp3-1);
    sp.remove(tmp3-1);

    System.out.println("\nWhat feature do you want to modify?");
    System.out.println("1. Mobile ID.");
    System.out.println("2. Model Name.");
    System.out.println("3. Quantity.");
    System.out.println("4. Enabled 5G.");
    System.out.println("5. Foldable.");
    System.out.println("6. Dual Screen.");

    tmp3 = sc.nextInt();
    sc.nextLine();
```

```
if(tmp3 == 1){
    System.out.println("Enter the new Mobile ID: ");
    int t = sc.nextInt();
    sc.nextLine();

    p.set_mobile_id(t);

    System.out.println("The Mobile ID has been modified to: " + t + "\n");
}

else if(tmp3 == 2) {
    System.out.println("Enter the new Model Name: ");
    String t = sc.nextLine();

    p.set_model_name(t);

    System.out.println("The Model name has been changed to: " + t + "\n");
}

else if(tmp3 == 3) {
    System.out.println("Enter the new quantity: ");
    int t = sc.nextInt();
    sc.nextLine();

    p.set_available_quantity(t);

    System.out.println("The new quantity is: " + t + "\n");
}

else if(tmp3 == 4) {
    System.out.println("Enter if 5G is enabled: ");
    boolean t = sc.nextBoolean();
    sc.nextLine();

    p.set_enabled_5G(t);

    System.out.println("The 5G enabled has been changed to: " + t + "\n");
}

else if(tmp3 == 5) {
    System.out.println("Enter if the phone is foldable: ");
    boolean t = sc.nextBoolean();
    sc.nextLine();

    p.set_foldable(t);

    System.out.println("The foldable has been changed to: " + t + "\n");
}

else if(tmp3 == 6) {
```

```
        System.out.println("Enter if the phone is dual screen: ");
        boolean t = sc.nextBoolean();
        sc.nextLine();

        p.set_dual_screen(t);

        System.out.println("The dual screen has been changed to: " + t + "\n");
    }

    sp.add(p);
}
else if(tmp == 4) {
    Smart_Phone p;

    System.out.println("\nWhich model do you want to sell?");
    System.out.println("The output will be in the format: ");
    System.out.println("Mobile ID - Model Name - Available Quantity - Enabled 5
G - Foldable - Dual Screen");
    for(int i = 0; i < sp.size(); i++) {
        p = sp.get(i);

        System.out.println(i+1 + ". " + p.mobile_id + " - " + p.model_name + "
- " + p.available_quantity + " - " + p.enabled_5G + " - " + p.foldable + " - " + p.dual_
screen);
    }

    int tmp3;
    tmp3 = sc.nextInt();
    sc.nextLine();

    p = sp.get(tmp3 - 1);
    sp.remove(tmp3 - 1);

    System.out.println("How much do you want sell?");
    int k;
    k = sc.nextInt();
    sc.nextLine();

    p.customer_buy(k);

    sp.add(p);
}
else if(tmp == 5) {
    break;
}
}
}
}
```

## Smart\_phone.java:

```
package Smart;

public class Smart_Phone {
    public int mobile_id;
    public boolean enabled_5G, foldable, dual_screen;

    public void customer_buy(int x) {

        System.out.println(mobile_id);
        System.out.println(model_name);
        available_quantity -= x;
        System.out.println(available_quantity);
        System.out.println(enabled_5G);
        System.out.println(foldable);
        System.out.println(dual_screen);
    }

    public Smart_Phone() {
        mobile_id = 0;
        available_quantity = 0;
        model_name = "Unknown";
        enabled_5G = false;
        foldable = false;
        dual_screen = false;
    }

    public static void get(){
        public void set_mobile_id(int mobile_id) {
            this.mobile_id = mobile_id;
        }

        public void set_model_name(String model_name) {
            this.model_name = model_name;
        }

        public void set_enabled_5G(boolean b){
            enabled_5G = b;
        }

        public void set_foldable(boolean b) {
            foldable = b;
        }

        public void set_dual_screen(boolean b) {
            dual_screen = b;
        }
    }
}
```

```
    public void set_available_quantity(int x) {
        available_quantity = x;
    }
}

public static void display () {
    System.out.println("Mobile ID." + mobile_id);
    System.out.println("Enabled 5G." + enabled_5G);
    System.out.println(" Foldable." + foldable);
    System.out.println("Dual Screen." + dual_screen);
}
}
```

### Telephone.java:

```
package Phone;
package Smart;

public class Telephone {
    public int mobile_id, available_quantity;
    public String model_name;

    public static void get(){
        public void set_mobile_id(int mobile_id) {
            this.mobile_id = mobile_id;
        }

        public void set_model_name(String model_name) {
            this.model_name = model_name;
        }

        public void set_available_quantity(int x) {
            available_quantity = x;
        }
    }

    public static void display () {
        System.out.println("Mobile ID." + mobile_id);
        System.out.println(" Quantity ." + available_quantity);
        System.out.println("Model Name." + model_name);
    }
}
```

## Output:

```
shara-d@Rohans-workstation:~/Desktop/Java_Lab$ java Sell.java
```

```
What would you like to do?
```

1. Add a new Mobile Model.
2. Modify existing Mobile Model.
3. Delete a Mobile Model.
4. Sell a Mobile Model.
5. Exit

```
1
```

```
Enter the Mobile Id:
```

```
852146
```

```
Enter the Model Name:
```

```
Sm-7896
```

```
Enter the quantity available:
```

```
41
```

```
Enter if it has 5G connectivity or not? (true or false)
```

```
true
```

```
Enter if it is foldable or not? (true or false)
```

```
true
```

```
Enter if it is dual screen or not? (true or false)
```

```
false
```

```
What would you like to do?
```

1. Add a new Mobile Model.
2. Modify existing Mobile Model.
3. Delete a Mobile Model.
4. Sell a Mobile Model.
5. Exit

```
1
```

```
Enter the Mobile Id:
```

```
746321
```

```
Enter the Model Name:
```

```
SG-8954
```

```
Enter the quantity available:
```

```
63
```

```
Enter if it has 5G connectivity or not? (true or false)
```

```
true
```

```
Enter if it is foldable or not? (true or false)
```

```
false
```

```
Enter if it is dual screen or not? (true or false)
```

```
false
```

```
What would you like to do?
```

1. Add a new Mobile Model.
2. Modify existing Mobile Model.
3. Delete a Mobile Model.
4. Sell a Mobile Model.
5. Exit

```
2
```



```
Which model do you want to modify?
The output will be in the format:
Mobile ID - Model Name - Available Quantity - Enabled 5G - Foldable - Dual Screen
1. 852146 - Sm-7896 - 41 - true - true - false
2. 746321 - SG-8954 - 63 - true - false - false
2

What feature do you want to modify?
1. Mobile ID.
2. Model Name.
3. Quantity.
4. Enabled 5G.
5. Foldable.
6. Dual Screen.
6
Enter if the phone is dual screen:
true
The dual screen has been changed to: true

What would you like to do?
1. Add a new Mobile Model.
2. Modify existing Mobile Model.
3. Delete a Mobile Model.
4. Sell a Mobile Model.
5. Exit
3

Which model do you want to delete?
1. 852146 - Sm-7896
2. 746321 - SG-8954
1
852146 - Sm-7896 has been removed successfully.

What would you like to do?
1. Add a new Mobile Model.
2. Modify existing Mobile Model.
3. Delete a Mobile Model.
4. Sell a Mobile Model.
5. Exit
4

Which model do you want to sell?
The output will be in the format:
Mobile ID - Model Name - Available Quantity - Enabled 5G - Foldable - Dual Screen
1. 746321 - SG-8954 - 63 - true - false - true
1
How much do you want sell?
40
Mobile ID: 746321
Model Name: SG-8954
Pieces Left: 23
5G feature: true
Foldable feature: false
Dual Screen feature: true

What would you like to do?
1. Add a new Mobile Model.
2. Modify existing Mobile Model.
3. Delete a Mobile Model.
4. Sell a Mobile Model.
5. Exit
5
shara-d@Rohans-workstation:~/Desktop/Java_Lab$
```