

MTS 3033 Object Oriented Programming

Name:

Matric ID:

Group:

Assignment #4 (Due Date 13/12/21 @ 11pm)- Group

Instruction: Written and paste your print screen on this worksheet. Write your program using Notepad and compile using Command Prompt.

- Write a complete JAVA program that display 5 types of fruit with their price. Then ask the user to input the respective quantity and calculate the total price user needs to pay. Apply loop in your program.

Example of Output:

Apple	Mango	Rambutan	Mangosteen	Papaya
RM10/10 pieces	RM5/kg	RM3/kg	RM5/kg	RM8/kg
15 pieces	2 kg	1.5 kg	2 kg	1 kg
RM15	RM10	RM4.50	RM10	RM8
Total	RM47.50			

[10 Marks]

```

Administrator: Command Prompt
C:\>javac types.java
C:\>java types

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM3/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
1
Apple (RM10/10pieces)
How many pieces/kilograms do you want?
15
Total Price: RM15.0

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM3/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
2
Mango (RM5/kg)
How many pieces/kilograms do you want?
2
Total Price: RM10.0

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM3/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
3
Rambutan (RM3/kg)
How many pieces/kilograms do you want?
1.5
Total Price: RM4.5

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM3/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
4
Mangosteen (RM5/kg)
How many pieces/kilograms do you want?
2
Total Price: RM10.0

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM3/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
5
Papaya (RM8/kg)
How many pieces/kilograms do you want?
1
Total Price: RM8.0

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM3/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
6
Done
Total Price: RM47.50
  
```

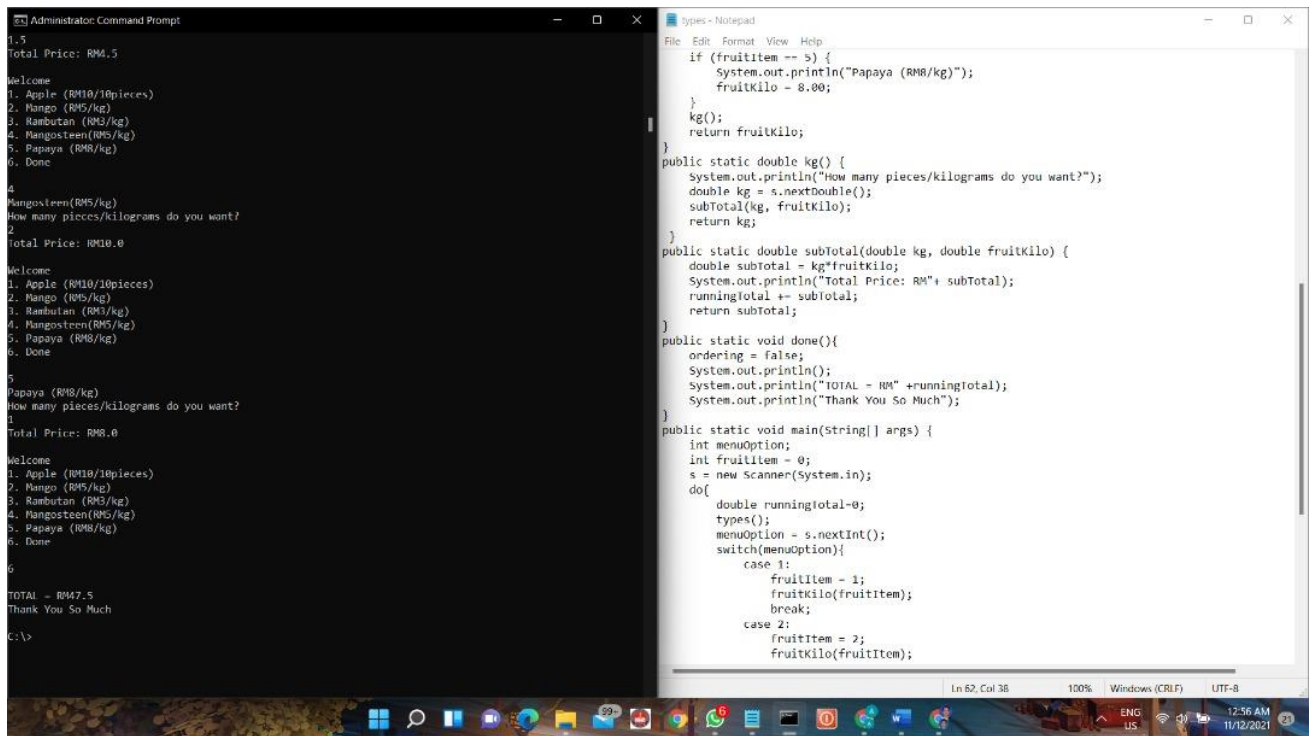
```

types.java
import java.util.Scanner;

public class types {
    public double subtotal;
    public static double runningTotal;
    private static double fruitKilo;
    static boolean ordering = true;
    static Scanner s = new Scanner(System.in);

    public static void types()
    {
        System.out.println();
        System.out.println("Welcome");
        System.out.println("1. Apple (RM10/10pieces)");
        System.out.println("2. Mango (RM5/kg)");
        System.out.println("3. Rambutan (RM3/kg)");
        System.out.println("4. Mangosteen (RM5/kg)");
        System.out.println("5. Papaya (RM8/kg)");
        System.out.println("6. Done");
        System.out.println();
    }

    public static double fruitKilo(int fruitItem) {
        if (fruitItem == 1) {
            System.out.println("Apple (RM10/10pieces)");
            fruitKilo = 1.00;
        }
        if (fruitItem == 2) {
            System.out.println("Mango (RM5/kg)");
            fruitKilo = 5.00;
        }
        if (fruitItem == 3) {
            System.out.println("Rambutan (RM3/kg)");
            fruitKilo = 3.00;
        }
        if (fruitItem == 4) {
            System.out.println("Mangosteen (RM5/kg)");
            fruitKilo = 5.00;
        }
        if (fruitItem == 5) {
            System.out.println("Papaya (RM8/kg)");
            fruitKilo = 8.00;
        }
    }
}
  
```



The screenshot shows a Java application running in a Windows Command Prompt (Administrator) and its source code in a Notepad window. The application is a fruit ordering system. It displays a menu with five items: Apple (RM10/10pieces), Mango (RM5/kg), Rambutan (RM5/kg), Mangosteen (RM5/kg), and Papaya (RM8/kg). The user selects item 4 (Mangosteen) and enters 2 kilograms. The program calculates the total price as RM10.0. The user then selects item 5 (Papaya) and enters 1 kilogram. The program calculates the total price as RM8.0. Finally, the user selects item 1 (Apple) and enters 15 pieces. The program calculates the total price as RM150.0. The program then prints the total price and thanks the user.

```

1.5
Total Price: RM4.5

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM5/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
4
Mangosteen(RM5/kg)
How many pieces/kilograms do you want?
2
Total Price: RM10.0

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM5/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
5
Papaya (RM8/kg)
How many pieces/kilograms do you want?
1
Total Price: RM8.0

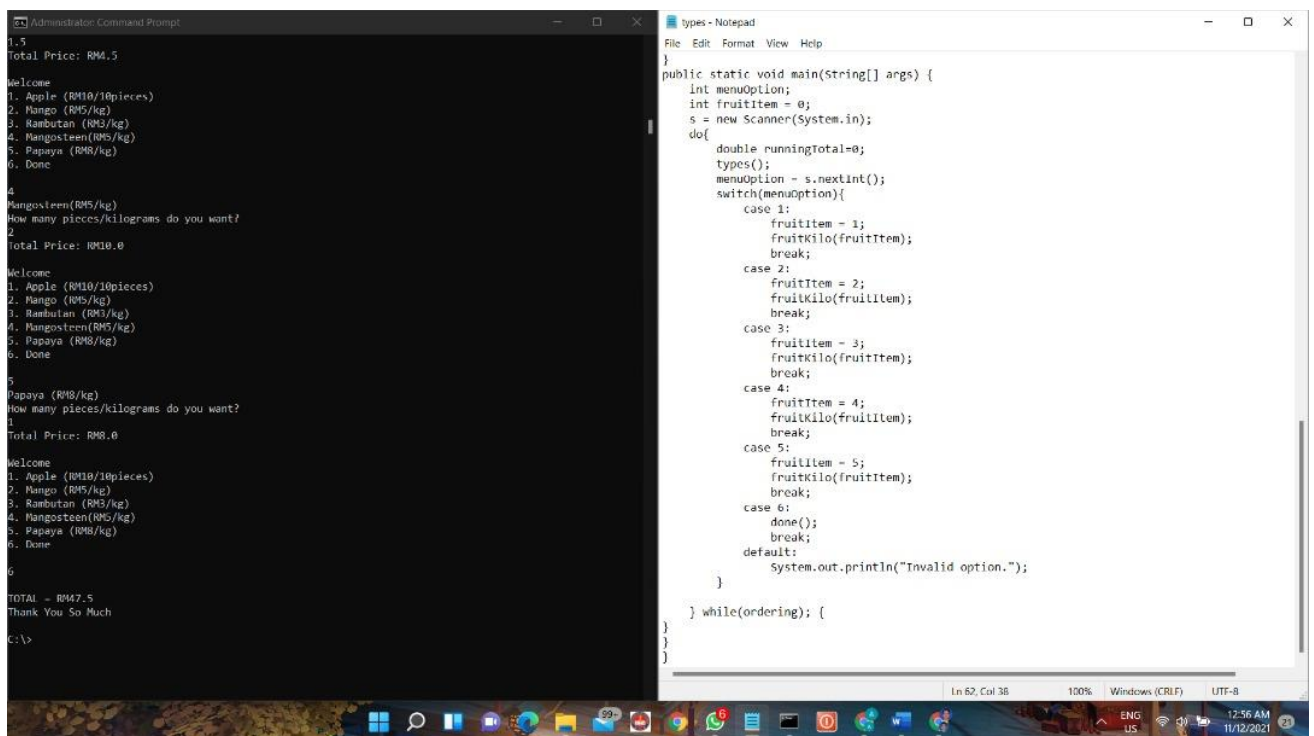
Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM5/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
6
TOTAL = RM147.5
Thank You So Much
C:\>

```

```

File Edit Format View Help
}
if (fruitItem == 1) {
    System.out.println("Papaya (RM8/kg)");
    fruitKilo = 8.00;
}
kg();
return fruitKilo;
}
public static double kg() {
    System.out.println("How many pieces/kilograms do you want?");
    double kg = s.nextDouble();
    subTotal(kg, fruitKilo);
    return kg;
}
public static double subTotal(double kg, double fruitKilo) {
    double subTotal = kg*fruitKilo;
    System.out.println("Total Price: RM"+ subTotal);
    runningTotal += subTotal;
    return subTotal;
}
public static void done(){
    ordering = false;
    System.out.println();
    System.out.println("TOTAL = RM" + runningTotal);
    System.out.println("Thank You So Much");
}
public static void main(String[] args) {
    int menuOption;
    int fruitItem = 0;
    s = new Scanner(System.in);
    do{
        double runningTotal=0;
        types();
        menuOption = s.nextInt();
        switch(menuOption){
            case 1:
                fruitItem = 1;
                fruitKilo(fruitItem);
                break;
            case 2:
                fruitItem = 2;
                fruitKilo(fruitItem);
                break;
            case 3:
                fruitItem = 3;
                fruitKilo(fruitItem);
                break;
            case 4:
                fruitItem = 4;
                fruitKilo(fruitItem);
                break;
            case 5:
                fruitItem = 5;
                fruitKilo(fruitItem);
                break;
            case 6:
                done();
                break;
            default:
                System.out.println("Invalid option.");
        }
    } while(ordering);
}
}
}
Ln 62, Col 38 100% Windows (CRLF) UTF-8

```



The screenshot shows the same Java application running in a Windows Command Prompt (Administrator) and its source code in a Notepad window. The application is a fruit ordering system. It displays a menu with five items: Apple (RM10/10pieces), Mango (RM5/kg), Rambutan (RM5/kg), Mangosteen (RM5/kg), and Papaya (RM8/kg). The user selects item 4 (Mangosteen) and enters 2 kilograms. The program calculates the total price as RM10.0. The user then selects item 5 (Papaya) and enters 1 kilogram. The program calculates the total price as RM8.0. Finally, the user selects item 1 (Apple) and enters 15 pieces. The program calculates the total price as RM150.0. The program then prints the total price and thanks the user.

```

1.5
Total Price: RM4.5

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM5/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
4
Mangosteen(RM5/kg)
How many pieces/kilograms do you want?
2
Total Price: RM10.0

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM5/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
5
Papaya (RM8/kg)
How many pieces/kilograms do you want?
1
Total Price: RM8.0

Welcome
1. Apple (RM10/10pieces)
2. Mango (RM5/kg)
3. Rambutan (RM5/kg)
4. Mangosteen (RM5/kg)
5. Papaya (RM8/kg)
6. Done
6
TOTAL = RM147.5
Thank You So Much
C:\>

```

```

File Edit Format View Help
}
public static void main(String[] args) {
    int menuOption;
    int fruitItem = 0;
    s = new Scanner(System.in);
    do{
        double runningTotal=0;
        types();
        menuOption = s.nextInt();
        switch(menuOption){
            case 1:
                fruitItem = 1;
                fruitKilo(fruitItem);
                break;
            case 2:
                fruitItem = 2;
                fruitKilo(fruitItem);
                break;
            case 3:
                fruitItem = 3;
                fruitKilo(fruitItem);
                break;
            case 4:
                fruitItem = 4;
                fruitKilo(fruitItem);
                break;
            case 5:
                fruitItem = 5;
                fruitKilo(fruitItem);
                break;
            case 6:
                done();
                break;
            default:
                System.out.println("Invalid option.");
        }
    } while(ordering);
}
}
}
Ln 62, Col 38 100% Windows (CRLF) UTF-8

```

2. Write a complete JAVA program that user can randomly customized item they want to put in the gift box [limit 5 item in a box]. Each user can create only 2 box.

For example:

Create a few lists:

List 1: Chocolate Strawberry, Chocolate Milk, Chocolate Nuts

List 2: Balloon red, Balloon blue, Balloon orange, Balloon Pink

List 3: Candy 1, Candy 2, Candy 3, Candy 4, Candy 5

List 4: Card 1, Card 2, Card 3

Box 1: Chocolate Strawberry [2], Balloon orange [2], Balloon Pink [1]

Box 2: Candy 1[1], Candy 4[1], Card 1[1], Balloon blue[1], Balloon red[1]

[10 marks]

The screenshot shows two windows. The left window is an Administrator Command Prompt showing the execution of a Java program. The right window is a Notepad file named 'Gift.java' containing the source code.

```

Administrator: Command Prompt
Microsoft Windows [Version 10.0.22000.348]
(c) Microsoft Corporation. All rights reserved.

C:\windows\system32>cd\

C:\>set path=C:\Program Files\Java\jdk1.8.0_202\bin

C:\>javac Gift.java

C:\>java Gift

List 1: Chocolate Strawberry Chocolate Milk Chocolate Nuts
List 2: Balloon red Balloon blue Balloon orange Balloon Pink
List 3: Candy 1 Candy 2 Candy 3 Candy 4 Candy 5
List 4: Card 1 Card 2 Card 3

Box 1:
Enter quantity of Chocolate Strawberry : 1
Enter quantity of Chocolate Milk : 0
Enter quantity of Chocolate Nuts : 0
Enter quantity of Balloon red : 1
Enter quantity of Balloon blue : 0
Enter quantity of Balloon orange : 0
Enter quantity of Balloon Pink : 1
Enter quantity of Candy 1 : 0
Enter quantity of Candy 2 : 0
Enter quantity of Candy 3 : 1
Enter quantity of Candy 4 : 0
Enter quantity of Candy 5 : 0
Enter quantity of Card 1 : 0
Enter quantity of Card 2 : 1

Box 2:
Enter quantity of Chocolate Strawberry : 0
Enter quantity of Chocolate Milk : 0
Enter quantity of Chocolate Nuts : 1
Enter quantity of Balloon red : 0
Enter quantity of Balloon blue : 1
Enter quantity of Balloon orange : 0
Enter quantity of Balloon Pink : 1
Enter quantity of Candy 1 : 1
Enter quantity of Candy 2 : 0
Enter quantity of Candy 3 : 0
  
```

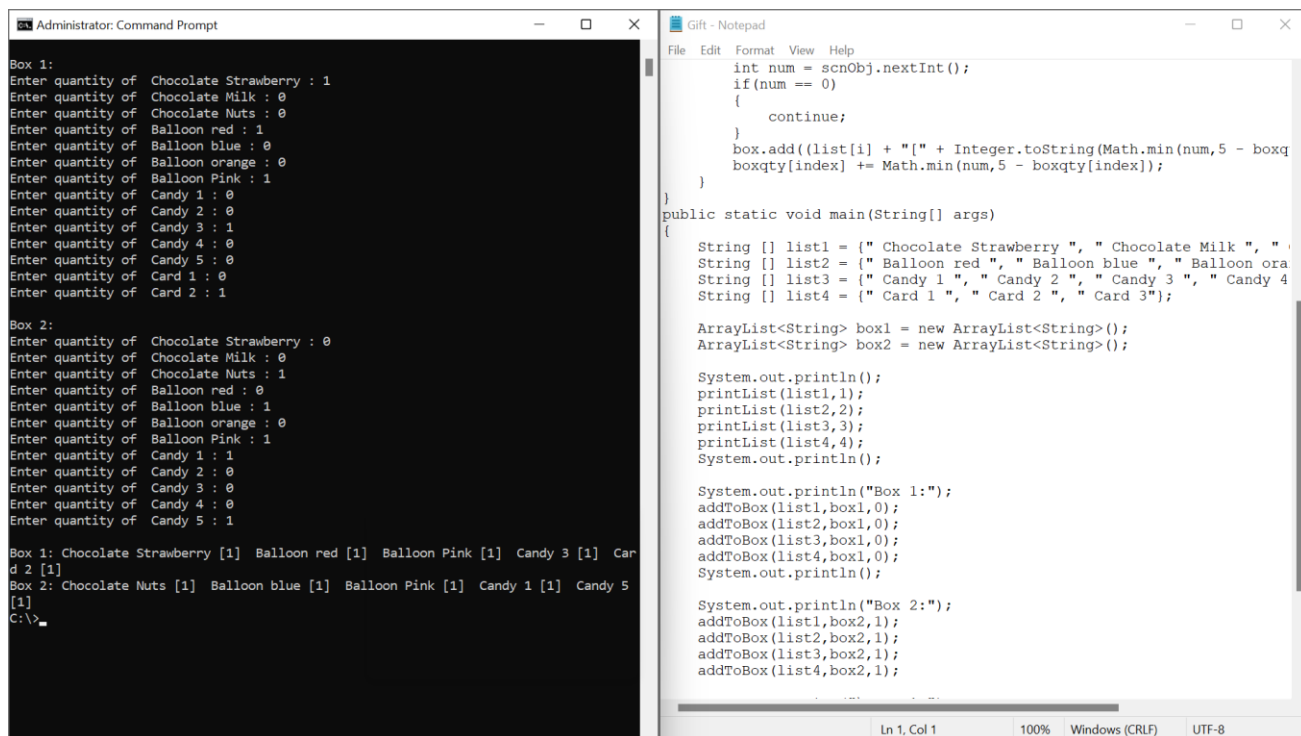
```

Gift - Notepad
File Edit Format View Help
import java.util.*;
public class Gift
{
    static int boxqty[] = {0,0};
    public static void printList(String [] list,int index){
        System.out.print("List " + index + ": ");
        for(int i = 0;i<list.length;i++)
        {
            System.out.print(list[i]);
        }
        System.out.print('\n');
    }

    public static void addToBox(String [] list,ArrayList<String> box,int in
    {
        if(boxqty[index] == 5)
        {
            return;
        }

        Scanner scnObj = new Scanner(System.in);
        for(int i = 0;i<list.length;i++)
        {
            if(boxqty[index] == 5)
            {
                return;
            }

            System.out.print("Enter quantity of " + list[i] + ": ");
            int num = scnObj.nextInt();
            if(num == 0)
            {
                continue;
            }
            box.add(list[i] + "[" + Integer.toString(Math.min(num,5 - boxq
            boxqty[index] += Math.min(num,5 - boxqty[index]);
        }
    }
}
  
```



```

Administrator: Command Prompt
Box 1:
Enter quantity of Chocolate Strawberry : 1
Enter quantity of Chocolate Milk : 0
Enter quantity of Chocolate Nuts : 0
Enter quantity of Balloon red : 1
Enter quantity of Balloon blue : 0
Enter quantity of Balloon orange : 0
Enter quantity of Balloon Pink : 1
Enter quantity of Candy 1 : 0
Enter quantity of Candy 2 : 0
Enter quantity of Candy 3 : 1
Enter quantity of Candy 4 : 0
Enter quantity of Candy 5 : 0
Enter quantity of Card 1 : 0
Enter quantity of Card 2 : 1

Box 2:
Enter quantity of Chocolate Strawberry : 0
Enter quantity of Chocolate Milk : 0
Enter quantity of Chocolate Nuts : 1
Enter quantity of Balloon red : 0
Enter quantity of Balloon blue : 1
Enter quantity of Balloon orange : 0
Enter quantity of Balloon Pink : 1
Enter quantity of Candy 1 : 1
Enter quantity of Candy 2 : 0
Enter quantity of Candy 3 : 0
Enter quantity of Candy 4 : 0
Enter quantity of Candy 5 : 1

Box 1: Chocolate Strawberry [1] Balloon red [1] Balloon Pink [1] Candy 3 [1] Card 2 [1]
Box 2: Chocolate Nuts [1] Balloon blue [1] Balloon Pink [1] Candy 1 [1] Candy 5 [1]
C:\>

Gift - Notepad
File Edit Format View Help
int num = scnObj.nextInt();
if(num == 0)
{
    continue;
}
box.add((list[i] + "[" + Integer.toString(Math.min(num, 5 - boxq
boxqty[index] += Math.min(num, 5 - boxqty[index]));
}
}
public static void main(String[] args)
{
    String [] list1 = {" Chocolate Strawberry ", " Chocolate Milk ", "
    String [] list2 = {" Balloon red ", " Balloon blue ", " Balloon ora
    String [] list3 = {" Candy 1 ", " Candy 2 ", " Candy 3 ", " Candy 4
    String [] list4 = {" Card 1 ", " Card 2 ", " Card 3"};

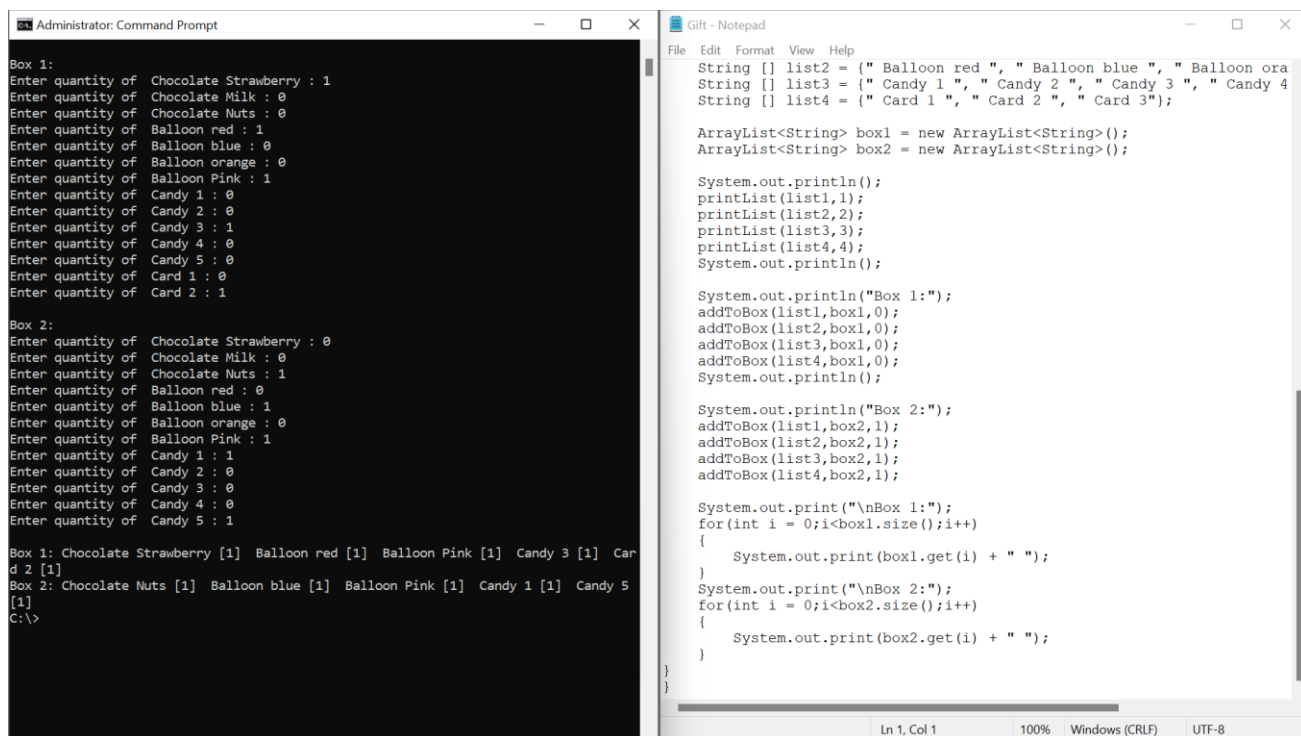
    ArrayList<String> box1 = new ArrayList<String>();
    ArrayList<String> box2 = new ArrayList<String>();

    System.out.println();
    printList(list1,1);
    printList(list2,2);
    printList(list3,3);
    printList(list4,4);
    System.out.println();

    System.out.println("Box 1:");
    addToBox(list1,box1,0);
    addToBox(list2,box1,0);
    addToBox(list3,box1,0);
    addToBox(list4,box1,0);
    System.out.println();

    System.out.println("Box 2:");
    addToBox(list1,box2,1);
    addToBox(list2,box2,1);
    addToBox(list3,box2,1);
    addToBox(list4,box2,1);
}
Ln 1, Col 1 100% Windows (CRLF) UTF-8

```



```

Administrator: Command Prompt
Box 1:
Enter quantity of Chocolate Strawberry : 1
Enter quantity of Chocolate Milk : 0
Enter quantity of Chocolate Nuts : 0
Enter quantity of Balloon red : 1
Enter quantity of Balloon blue : 0
Enter quantity of Balloon orange : 0
Enter quantity of Balloon Pink : 1
Enter quantity of Candy 1 : 0
Enter quantity of Candy 2 : 0
Enter quantity of Candy 3 : 1
Enter quantity of Candy 4 : 0
Enter quantity of Candy 5 : 0
Enter quantity of Card 1 : 0
Enter quantity of Card 2 : 1

Box 2:
Enter quantity of Chocolate Strawberry : 0
Enter quantity of Chocolate Milk : 0
Enter quantity of Chocolate Nuts : 1
Enter quantity of Balloon red : 0
Enter quantity of Balloon blue : 1
Enter quantity of Balloon orange : 0
Enter quantity of Balloon Pink : 1
Enter quantity of Candy 1 : 1
Enter quantity of Candy 2 : 0
Enter quantity of Candy 3 : 0
Enter quantity of Candy 4 : 0
Enter quantity of Candy 5 : 1

Box 1: Chocolate Strawberry [1] Balloon red [1] Balloon Pink [1] Candy 3 [1] Card 2 [1]
Box 2: Chocolate Nuts [1] Balloon blue [1] Balloon Pink [1] Candy 1 [1] Candy 5 [1]
C:\>

Gift - Notepad
File Edit Format View Help
String [] list2 = {" Balloon red ", " Balloon blue ", " Balloon ora
String [] list3 = {" Candy 1 ", " Candy 2 ", " Candy 3 ", " Candy 4
String [] list4 = {" Card 1 ", " Card 2 ", " Card 3"};

ArrayList<String> box1 = new ArrayList<String>();
ArrayList<String> box2 = new ArrayList<String>();

System.out.println();
printList(list1,1);
printList(list2,2);
printList(list3,3);
printList(list4,4);
System.out.println();

System.out.println("Box 1:");
addToBox(list1,box1,0);
addToBox(list2,box1,0);
addToBox(list3,box1,0);
addToBox(list4,box1,0);
System.out.println();

System.out.println("Box 2:");
addToBox(list1,box2,1);
addToBox(list2,box2,1);
addToBox(list3,box2,1);
addToBox(list4,box2,1);

System.out.print("\nBox 1:");
for(int i = 0;i<box1.size();i++)
{
    System.out.print(box1.get(i) + " ");
}
System.out.print("\nBox 2:");
for(int i = 0;i<box2.size();i++)
{
    System.out.print(box2.get(i) + " ");
}
}
Ln 1, Col 1 100% Windows (CRLF) UTF-8

```