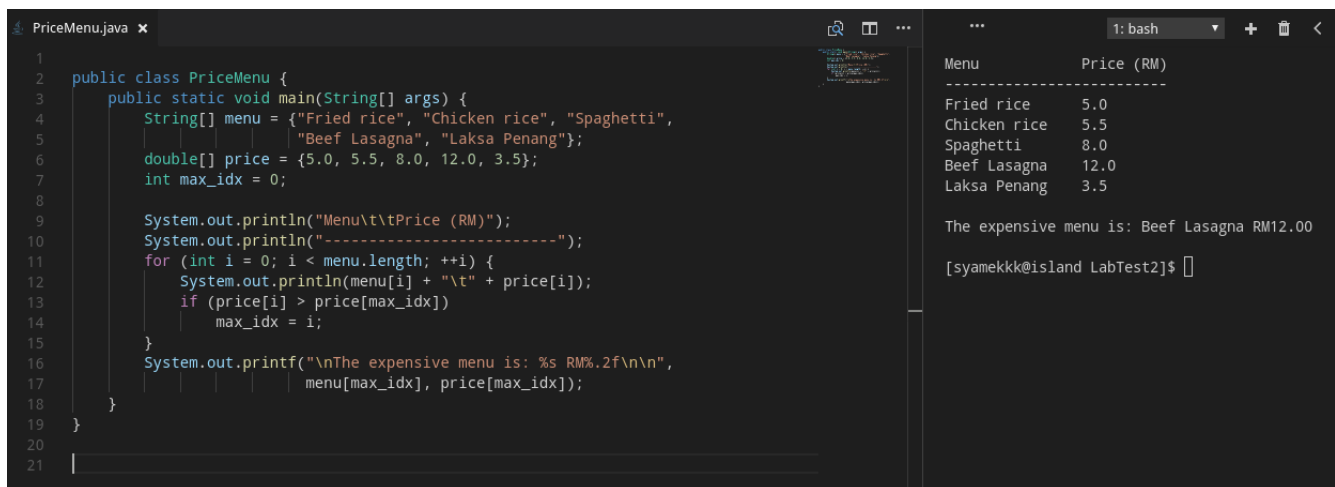


CSC 1103 Section 1 & 6 OOP

Lab Test 2

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1. (Menu and price)



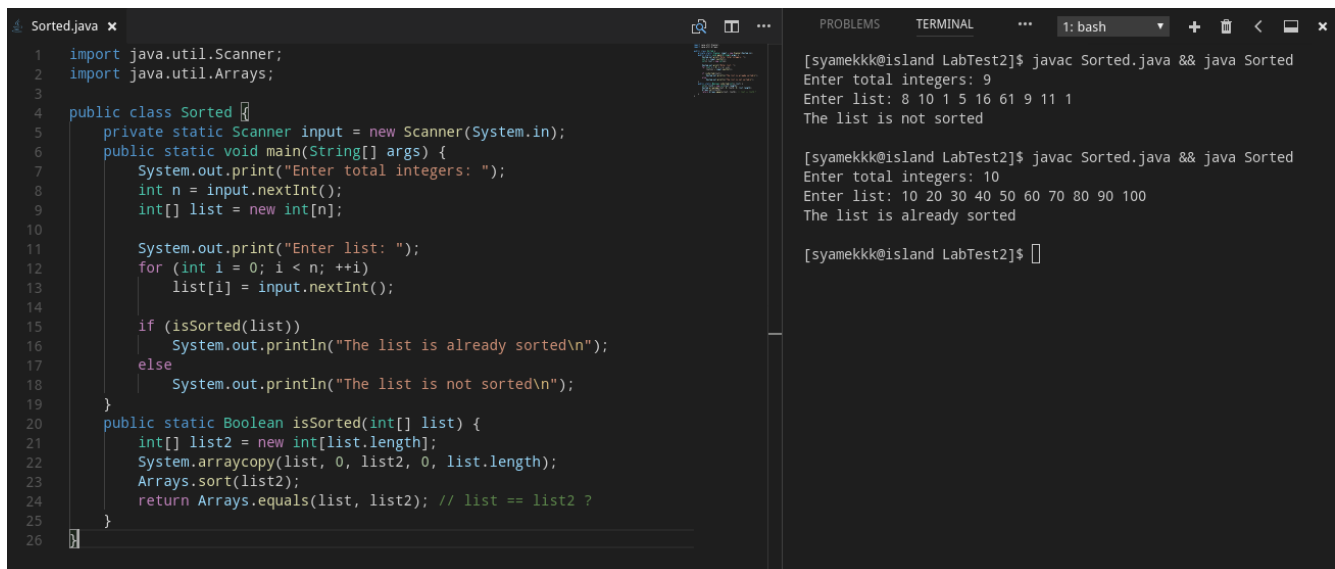
```
1 public class PriceMenu {
2     public static void main(String[] args) {
3         String[] menu = {"Fried rice", "Chicken rice", "Spaghetti",
4                         "Beef Lasagna", "Laksa Penang"};
5         double[] price = {5.0, 5.5, 8.0, 12.0, 3.5};
6         int max_idx = 0;
7
8         System.out.println("Menu\t\tPrice (RM)");
9         System.out.println("-----");
10        for (int i = 0; i < menu.length; ++i) {
11            System.out.println(menu[i] + "\t" + price[i]);
12            if (price[i] > price[max_idx])
13                max_idx = i;
14        }
15        System.out.printf("\nThe expensive menu is: %s RM%.2f\n\n",
16                          menu[max_idx], price[max_idx]);
17    }
18 }
19
20
21
```

Menu	Price (RM)
Fried rice	5.0
Chicken rice	5.5
Spaghetti	8.0
Beef Lasagna	12.0
Laksa Penang	3.5

The expensive menu is: Beef Lasagna RM12.00

[syamekkk@island LabTest2]\$

2. (Sorted)



```
1 import java.util.Scanner;
2 import java.util.Arrays;
3
4 public class Sorted {
5     private static Scanner input = new Scanner(System.in);
6     public static void main(String[] args) {
7         System.out.print("Enter total integers: ");
8         int n = input.nextInt();
9         int[] list = new int[n];
10
11        System.out.print("Enter list: ");
12        for (int i = 0; i < n; ++i)
13            list[i] = input.nextInt();
14
15        if (isSorted(list))
16            System.out.println("The list is already sorted\n");
17        else
18            System.out.println("The list is not sorted\n");
19    }
20    public static Boolean isSorted(int[] list) {
21        int[] list2 = new int[list.length];
22        System.arraycopy(list, 0, list2, 0, list.length);
23        Arrays.sort(list2);
24        return Arrays.equals(list, list2); // list == list2 ?
25    }
26 }

```

[syamekkk@island LabTest2]\$ javac Sorted.java && java Sorted

Enter total integers: 9

Enter list: 8 10 1 5 16 61 9 11 1

The list is not sorted

[syamekkk@island LabTest2]\$ javac Sorted.java && java Sorted

Enter total integers: 10

Enter list: 10 20 30 40 50 60 70 80 90 100

The list is already sorted

[syamekkk@island LabTest2]\$

3. (Student's score)

```
StudentScore.java x
1 import java.util.Scanner;
2
3 public class StudentScore {
4     private static Scanner input = new Scanner(System.in);
5     public static void main(String[] args) {
6         System.out.print("Enter # of students: ");
7         int total_students = input.nextInt();
8         double[] score = new double[total_students];
9
10        for (int i = 0; i < total_students; ++i) {
11            System.out.print("Enter student's score for student " + (i + 1) + ": ");
12            score[i] = input.nextDouble();
13        }
14
15        int[] grade = classifyScore(score);
16
17        for (int i = 0; i < grade.length; ++i) {
18            System.out.printf("# of students obtained grade %c: %d (%.1f %%)\\n",
19                (char)(65 + i), grade[i], calcPercentage(grade[i], total_students));
20        }
21    }
22    public static int[] classifyScore(double[] score) {
23        int[] grade = new int[5];
24        for (int i = 0; i < score.length; ++i) {
25            if (score[i] >= 80 && score[i] <= 100)
26                ++grade[0];
27            else if (score[i] >= 65)
28                ++grade[1];
29            else if (score[i] >= 50)
30                ++grade[2];
31            else if (score[i] >= 40)
32                ++grade[3];
33            else if (score[i] >= 0)
34                ++grade[4];
35        }
36        return grade;
37    }
38    public static double calcPercentage(int grade, int tStudents) {
39        return grade * 100.0 / tStudents;
40    }
41 }
```

```
1: bash
Enter # of students: 10
Enter student's score for student 1: 10
Enter student's score for student 2: 30
Enter student's score for student 3: 45
Enter student's score for student 4: 55
Enter student's score for student 5: 60
Enter student's score for student 6: 58
Enter student's score for student 7: 64
Enter student's score for student 8: 65
Enter student's score for student 9: 80
Enter student's score for student 10: 87
# of students obtained grade A: 2 (20.0 %)
# of students obtained grade B: 1 (10.0 %)
# of students obtained grade C: 4 (40.0 %)
# of students obtained grade D: 1 (10.0 %)
# of students obtained grade E: 2 (20.0 %)
[syamekkk@island LabTest2]$
```