CS23333-Object Oriented Programming Using Java-2023

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Status	Finished
Started	Thursday, 7 November 2024, 9:25 AM
Completed	Thursday, 7 November 2024, 9:44 AM
Duration	18 mins 52 secs

Question 1
Correct
Marked out of 1.00
⚑ Flag question

Given an ArrayList, the task is to get the first and last element of the ArrayList in Java.

```
Input: ArrayList = [1, 2, 3, 4]
Output: First = 1, Last = 4

Input: ArrayList = [12, 23, 34, 45, 57, 67, 89]
Output: First = 12, Last = 89
```

Approach:

1. Get the ArrayList with elements.
2. Get the first element of ArrayList using the get(index) method by passing index = 0.
3. Get the last element of ArrayList using the get(index) method by passing index = size – 1.

Answer: (penalty regime: 0 %)

```java
1  import java.util.ArrayList;
2  import java.util.Scanner;
3
4  public class Main {
5      public static void main(String[] args) {
6          Scanner scanner = new Scanner(System.in);
7          ArrayList<Integer> arrayList = new ArrayList<>();
8          int n = scanner.nextInt();
9          for (int i = 0; i < n; i++) {
10             arrayList.add(scanner.nextInt());
11         }
12         System.out.println("ArrayList: "+arrayList);
13         printFirstAndLast(arrayList);
14         scanner.close();
15     }
16
17     public static void printFirstAndLast(ArrayList<Integer> arrayList) {
18         if (arrayList.isEmpty()) {
19             System.out.println("The ArrayList is empty.");
20         } else {
21             int first = arrayList.get(0);
22             int last = arrayList.get(arrayList.size() - 1);
23             System.out.println("First : " + first + ", Last : " + last);
24         }
25     }
26 }
27
```

Test	Input	Expected	Got
1	6 30 20 40 50 10 80	ArrayList: [30, 20, 40, 50, 10, 80] First : 30, Last : 80	ArrayList: [30, 20, 40, 50, 10, 80] First : 30, Last : 80
2	4 5 15 25 35	ArrayList: [5, 15, 25, 35] First : 5, Last : 35	ArrayList: [5, 15, 25, 35] First : 5, Last : 35

Passed all tests!

Question 2
Correct
Marked out of 1.00
⚑ Flag question

The given Java program is based on the ArrayList methods and its usage. The Java program is partially filled. Your task is to fill in the incomplete statements to get the desired output.

list.set();

list.indexOf());

list.lastIndexOf())

list.contains()

list.size());

list.add();

list.remove();

The above methods are used for the below Java program.

Answer: (penalty regime: 0 %)

[Reset answer]

```java
1  import java.util.ArrayList;
2  import java.util.Scanner;
3
4  public class Prog {
5
6      public static void main(String[] args) {
7          Scanner sc = new Scanner(System.in);
8          int n = sc.nextInt();
9
10         ArrayList<Integer> list = new ArrayList<Integer>();
11
12         for (int i = 0; i < n; i++)
13             list.add(sc.nextInt());
14
15         // Printing initial value of ArrayList
16         System.out.println("ArrayList: " + list);
17
18         // Replacing the element at index 1 with 100
19         list.set(1, 100);  // Fill in here
20
21         // Getting the index of first occurrence of 100
22         System.out.println("Index of 100 = " + list.indexOf(100)); // Fill in here
23
24         // Getting the index of last occurrence of 100
```

```
25        System.out.println("LastIndex of 100 = " + list.lastIndexOf(100)); // Fill in here
26
27        // Check whether 200 is in the list or not
28        System.out.println(""+ list.contains(200)); // Fill in here; Output: false
29
30        // Print ArrayList size
31        System.out.println("Size Of ArrayList = " + list.size()); // Fill in here
32
33        // Inserting 500 at index 1
34        list.add(1, 500); // Fill in here
35
36        // Removing an element from position 3
37        list.remove(3); // Fill in here
38
39        // Print final ArrayList
40        System.out.print("ArrayList: " + list);
41
42        sc.close();
43    }
44 }
```

Test	Input	Expected	Got	
1	5 1 2 3 100 5	ArrayList: [1, 2, 3, 100, 5] Index of 100 = 1 LastIndex of 100 = 3 false Size Of ArrayList = 5 ArrayList: [1, 500, 100, 100, 5]	ArrayList: [1, 2, 3, 100, 5] Index of 100 = 1 LastIndex of 100 = 3 false Size Of ArrayList = 5 ArrayList: [1, 500, 100, 100, 5]	

Passed all tests!

Question 3

Correct

Marked out of 1.00

⚐ Flag question

Write a Java program to reverse elements in an array list.

Sample input and Output:
Red
Green
Orange
White
Black
Sample output
List before reversing :
[Red, Green, Orange, White, Black]
List after reversing :
[Black, White, Orange, Green, Red]

Answer: (penalty regime: 0 %)

```java
1  import java.util.ArrayList;
2  import java.util.Collections;
3  import java.util.Scanner;
4
5  public class ReverseArrayList {
6      public static void main(String[] args) {
7          Scanner scanner = new Scanner(System.in);
8          ArrayList<String> colors = new ArrayList<>();
9
10         int n = scanner.nextInt();
11         scanner.nextLine();
12
13         for (int i = 0; i < n; i++) {
14             colors.add(scanner.nextLine());
15         }
16
17         System.out.println("List before reversing :");
18         System.out.println(colors);
19
20         Collections.reverse(colors);
21
22         System.out.println("List after reversing :");
23         System.out.println(colors);
24
25         scanner.close();
26     }
27 }
28
29
```

Test	Input	Expected	Got	
1	5 Red Green Orange White Black	List before reversing : [Red, Green, Orange, White, Black] List after reversing : [Black, White, Orange, Green, Red]	List before reversing : [Red, Green, Orange, White, Black] List after reversing : [Black, White, Orange, Green, Red]	
2	4 CSE AIML AIDS CYBER	List before reversing : [CSE, AIML, AIDS, CYBER] List after reversing : [CYBER, AIDS, AIML, CSE]	List before reversing : [CSE, AIML, AIDS, CYBER] List after reversing : [CYBER, AIDS, AIML, CSE]	

Passed all tests!

Finish review