CS23333-Object Oriented Programming Using Java-2023

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Status	Finished
Started	Friday, 8 November 2024, 9:50 PM
Completed	Friday, 8 November 2024, 11:42 PM
Duration	1 hour 52 mins

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 FirstAndLastElement {
5       public static void main(String[] args) {
6           Scanner scanner = new Scanner(System.in);
7           ArrayList<Integer> numbers = new ArrayList<>();
8
9
10          int n = scanner.nextInt();
11
12          for (int i = 0; i < n; i++) {
13              numbers.add(scanner.nextInt());
14          }
15
16          // Get the first element
17          int firstElement = numbers.get(0);
18
19          // Get the last element
20          int lastElement = numbers.get(numbers.size() - 1);
21          System.out.println("ArrayList: " + numbers);
22          System.out.print("First : " + firstElement+","+" ");
23          System.out.print("Last : " + lastElement);
24      }
25  }
26
```

	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 size0:

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   class prog {
5       public static void main(String[] args) {
6           Scanner sc = new Scanner(System.in);
7
8           // Create an ArrayList of integers
9           ArrayList<Integer> list = new ArrayList<>();
10
11          // Add initial elements to the list
12          //System.out.println("Enter the number of elements:");
13          int n = sc.nextInt();
14
15          //System.out.println("Enter the elements:");
16          for (int i = 0; i < n; i++) {
17              list.add(sc.nextInt()); // list.add() - Adds elements to the ArrayList
18          }
19
20          // Print the initial ArrayList
21          System.out.println("ArrayList: " + list);
22
23          // Set a specific element at index 1 to 100
24          list.set(1, 100); // list.set(index, value) - Sets element at index 1 to 100
25          //System.out.println("After setting element at index 1 to 100: " + list);
26
27          // Get the index of the first occurrence of 100
28          int firstIndex = list.indexOf(100); // list.indexOf(value) - Finds the first occurrence of 100
29          System.out.println("Index of 100 = " + firstIndex);
30
31          // Get the index of the last occurrence of 100
32          int lastIndex = list.lastIndexOf(100); // list.lastIndexOf(value) - Finds the last occurrence o
33          System.out.println("LastIndex of 100 = " + lastIndex);
34
35          // Check if the list contains 200
36          boolean contains200 = list.contains(200); // list.contains(value) - Checks if 200 is in the Arr
37          System.out.println( contains200);
38
39          // Get the size of the ArrayList
40          int size = list.size(); // list.size() - Gets the current size of the ArrayList
41          System.out.println("Size Of ArrayList = " + size);
42
43          // Insert 500 at index 1
44          list.add(1, 500); // list.add(index, value) - Adds 500 at index 1
45          //System.out.println("After inserting 500 at index 1: " + list);
46
47          // Remove the element at index 3
48          list.remove(3); // list.remove(index) - Removes the element at index 3
49          System.out.println("ArrayList: " + list);
50
51          // Close the scanner
52
```

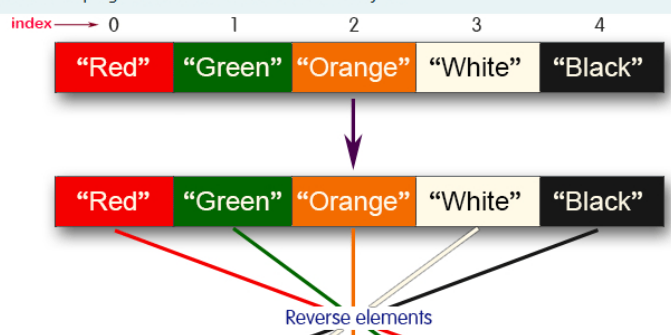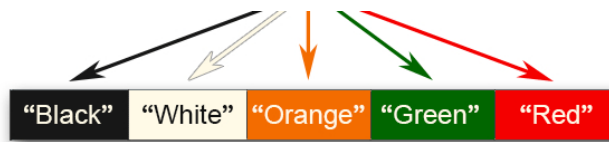|	Test	Input	Expected	Got	
✓	1	5	ArrayList: [1, 2, 3, 100, 5]	ArrayList: [1, 2, 3, 100, 5]	✓
		1	Index of 100 = 1	Index of 100 = 1	
		2	LastIndex of 100 = 3	LastIndex of 100 = 3	
		3	false	false	
		100	Size Of ArrayList = 5	Size Of ArrayList = 5	
		5	ArrayList: [1, 500, 100, 100, 5]	ArrayList: [1, 500,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

Passed all tests! ✓

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

"Black" "White" "Orange" "Green" "Red"

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
import java.util.*;

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

        // Read the number of elements
        //System.out.print("Enter the number of elements: ");
        int n = s.nextInt();
        s.nextLine(); // Consume the newline character after the integer input

        // Initialize the array and read the elements
        String[] a = new String[n];
        //System.out.println("Enter the elements:");
        for (int i = 0; i < n; i++) {
            a[i] = s.nextLine();
        }

        // Print the list before reversing
        System.out.print("List before reversing :\n[");
        for (int i = 0; i < n; i++) {
            if (i != n - 1) {
                System.out.print(a[i] + ", ");
            } else {
                System.out.print(a[i] + "]");
            }
        }

        // Print the list after reversing
        System.out.print("\nList after reversing :\n[");
        for (int i = n - 1; i >= 0; i--) {
            if (i != 0) {
                System.out.print(a[i] + ", ");
            } else {
                System.out.print(a[i] + "]");
            }
        }

        // Close the scanner
        s.close();
    }
}
```

	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