Java case study answers

1. Write a Java program to find count of word from given string

```
public class Main {
  public static void main(String[] args) {
    // initializing a string
    String msg = "advance java casestudy ";
    System.out.println("The given String is: " + msg);
    // To Split the string into words
    String[] arrayStr = msg.split("\s+");
    // To Count the number of words
    int totalWord = arrayStr.length;
    // printing the result
    System.out.println("Number of words in the given string: " + totalWord);
  }
}
```

Output:

```
The given String is: advance java casestudy
Number of words in the given string: 3
```

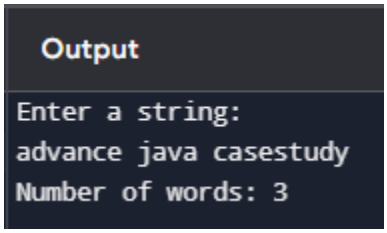
(OR)

User Input:

```
import java.util.Scanner;
public class WordCount {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.println("Enter a string: ");
      String input = scanner.nextLine();
```

```
        int wordCount = countWords(input);
        System.out.println("Number of words: " + wordCount);
    }
    public static int countWords(String str) {
        str = str.trim();
        if (str.isEmpty()) {
            return 0;
        }
        String[] words = str.split("\\s+");
        return words.length;
    }
}
```

Output:



2. Write a Java program to create a Data structure using ArrayList and perform operation(insert, delete, display).

```
import java.util.ArrayList;
public class SimpleArrayListOperations {
    public static void main(String[] args) {
        ArrayList<String> list = new ArrayList<>();
        list.add("Apple");
        list.add("Banana");
        list.add("Cherry");
        System.out.println("Initial elements: " + list);
```

```
        list.remove("Banana");
        System.out.println("After deleting 'Banana': " + list);
        if (list.remove("Orange")) {
            System.out.println("Deleted: Orange");
        }
    else {
            System.out.println("Element not found: Orange");
        }
        System.out.println("Final elements: " + list);
    }
}
```

Output:

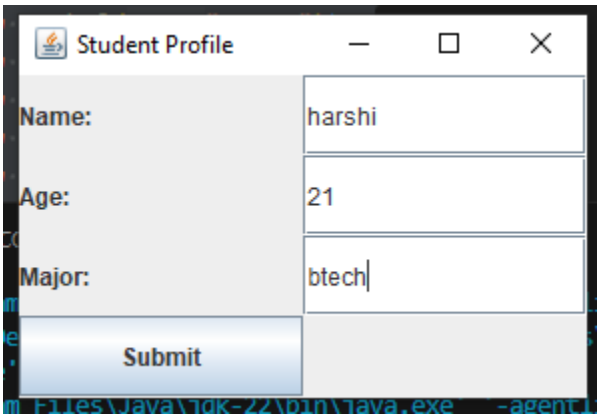
```
Output
Initial elements: [Apple, Banana, Cherry]
After deleting 'Banana': [Apple, Cherry]
Element not found: Orange
Final elements: [Apple, Cherry]
```

3. Write a Java program to create a window which is responsive (Student profile).

```
4. import javax.swing.*;
5. import java.awt.*;
6. public class StudentProfile {
7.     public static void main(String[] args) {
8.         JFrame frame = new JFrame("Student Profile");
9.         frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
10.        frame.setSize(300, 200);
11.        frame.setLayout(new GridLayout(4, 2)); // Simple grid layout
12.        frame.add(new JLabel("Name:"));
13.        frame.add(new JTextField(15));
14.        frame.add(new JLabel("Age:"));
15.        frame.add(new JTextField(3));
16.        frame.add(new JLabel("Major:"));
17.        frame.add(new JTextField(10));
18.        JButton submitButton = new JButton("Submit");
19.        frame.add(submitButton);
20.        frame.setLocationRelativeTo(null);
21.        frame.setVisible(true);
22.    }
23.}
```

24.

Output:



5.Write a java program to create a window to perform Age calculator

Ans: import javax.swing.*;

import java.awt.event.*;

import java.time.LocalDate;

import java.time.Period;

public class SimpleAgeCalculator {

public static void main(String[] args) {

JFrame frame = new JFrame("Age Calculator");

frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

frame.setSize(300, 150);

JTextField birthDateField = new JTextField(10);

JButton calculateButton = new JButton("Calculate Age");

JLabel resultLabel = new JLabel("Your Age: ");

JPanel panel = new JPanel();

panel.add(new JLabel("Enter Birth Date (YYYY-MM-DD):"));

panel.add(birthDateField);

panel.add(calculateButton);

panel.add(resultLabel);

frame.add(panel);

```
        calculateButton.addActionListener(e -> {
            try {
                LocalDate birthDate = LocalDate.parse(birthDateField.getText());
                LocalDate today = LocalDate.now();
                int age = Period.between(birthDate, today).getYears();
                resultLabel.setText("Your Age: " + age + " years");
            } catch (Exception ex) {
                resultLabel.setText("Invalid date format!");
            }
        });
        frame.setLocationRelativeTo(null); // Center the frame
        frame.setVisible(true);
    }
}
```

Output: