Name: Chandrahasa B

Student code: AF0336567

Batch Code: ANP-C6315

Lab Assignment – 14
Collection 3

Question 1: 1) Write a Java program that demonstrates the following operations on a HashSet:

● Create a HashSet of integers.

● Add the numbers 5, 10, 15, 20, and 25 to the set.

● Display the elements of the set.

● Check if the set contains the number 10.

● Remove the number 15 from the set.

● Display the size of the set.

Input:

```
import java.util.HashSet;


public class HashSetExample {

    public static void main(String[] args) {

        // Create a HashSet of integers
```

```java
HashSet<Integer> numberSet = new HashSet<>();

// Add numbers to the set
numberSet.add(5);

numberSet.add(10);

numberSet.add(15);

numberSet.add(20);

numberSet.add(25);

// Display the elements of the set
System.out.println("Elements of the set: " + numberSet);

// Check if the set contains the number 10
boolean containsTen = numberSet.contains(10);

System.out.println("Set contains 10: " + containsTen);

// Remove the number 15 from the set
numberSet.remove(15);

// Display the size of the set
```

```java
        System.out.println("Size of the set: " + numberSet.size());

    }

}
```

Output:

Elements of the set: [20, 5, 10, 15, 25]

Set contains 10: true

Size of the set: 4

Question 2: Write a Java program that calculates the sum of all even numbers present in an Array List of integers

Input:

```java
import java.util.ArrayList;


public class SumOfEvenNumbers {

    public static void main(String[] args) {

        // Create an ArrayList of integers

        ArrayList<Integer> numbers = new ArrayList<>();


        // Add some numbers to the list

        numbers.add(5);

        numbers.add(10);

        numbers.add(15);
```

```java
        numbers.add(20);

        numbers.add(25);


        // Calculate the sum of even numbers

        int sumOfEvenNumbers = calculateSumOfEvenNumbers(numbers);


        // Display the result

        System.out.println("Sum of even numbers: " + sumOfEvenNumbers);

    }


    // Function to calculate the sum of even numbers in an ArrayList

    private static int calculateSumOfEvenNumbers(ArrayList<Integer> numbers) {

        int sum = 0;


        for (int num : numbers) {

            if (num % 2 == 0) {

                sum += num;

            }

        }


        return sum;
```

```
    }

}
```

Output:

Sum of even numbers: 30