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Batch Code : **Java_ANP-C6315**

Lab Assignment-13

Q1: 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:

```
package CoreJava;
import java.util.HashSet;
public class HashSetExample {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		// Create a HashSet of integers
	HashSet<Integer> numbers = new HashSet<>();
	// Add the numbers 5, 10, 15, 20, and 25 to the set
	numbers.add(5);
	numbers.add(10);
	numbers.add(15);
	numbers.add(20);
	numbers.add(25);
	// Display the elements of the set
	System.out.println("Elements of the set: " + numbers);
	// Check if the set contains the number 10
	boolean contains10 = numbers.contains(10);
	System.out.println("Does the set contain 10? " + contains10);
```

```
        // Remove the number 15 from the set
        numbers.remove(15);
        // Display the size of the set
        System.out.println("Total Size of the set after removing 15: " +
numbers.size());
    }
}
```

Output:

```
Elements of the set: [20, 5, 25, 10, 15]
Does the set contain 10? true
Total Size of the set after removing 15: 4
```

Q2: Write a Java program that calculates the sum of all even numbers present in an ArrayList of integers.

Input:

```
package CoreJava;
import java.util.ArrayList;
public class SumOfEvenNumbers {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		 // Create an ArrayList of integers
		ArrayList<Integer> numbers = new ArrayList<>();
		numbers.add(1);
		numbers.add(2);
		numbers.add(3);
		numbers.add(4);
		numbers.add(5);
		numbers.add(6);
		numbers.add(7);
		numbers.add(8);
		numbers.add(9);
		numbers.add(10);
		// Calculate the sum of all even numbers in the list
		int sum = 0;
		for (int number : numbers) {
		    if (number % 2 == 0) {
		        sum += number;
		    }
		}
		// Display the sum of the even numbers
		System.out.println("The sum of all even numbers in the list is: " + sum);
	}
}
```

Output:

```
The sum of all even numbers in the list is: 30
```
