

1. Java Program to Create a Generic Method that Takes a List of Numbers and Returns the Sum of All the Even and Odd Numbers

CODE:

```
import java.util.List;

public class SumEvenOdd {

    public static <T extends Number> void sumEvenOdd(List<T> numbers) {
        int sumEven = 0;
        int sumOdd = 0;

        for (T number : numbers) {
            int intValue = number.intValue();
            if (intValue % 2 == 0) {
                sumEven += intValue;
            } else {
                sumOdd += intValue;
            }
        }

        System.out.println("Sum of Even Numbers: " + sumEven);
        System.out.println("Sum of Odd Numbers: " + sumOdd);
    }

    public static void main(String[] args) {
        List<Integer> intList = List.of(1, 2, 3, 4, 5, 6);
        List<Double> doubleList = List.of(1.5, 2.0, 3.5, 4.0);

        System.out.println("For Integer List:");
        sumEvenOdd(intList);

        System.out.println("For Double List (converted to integers):");
        sumEvenOdd(doubleList);
    }
}
```

OUTPUT:

Output

Clear

```
java -cp /tmp/IM65ureLCw/SumEvenOdd
For Integer List:
Sum of Even Numbers: 12
Sum of Odd Numbers: 9
For Double List (converted to integers):
Sum of Even Numbers: 6
Sum of Odd Numbers: 4

=== Code Execution Successful ===
```

2. Java Program to Create a Generic Method that Takes a List of Any Type and a Target Element, Returns the Index of the First Occurrence of the Target Element

CODE:

```
import java.util.List;
public class FindElementIndex {
    public static <T> int findFirstOccurrence(List<T> list, T target) {
        for (int i = 0; i < list.size(); i++) {
            if (list.get(i).equals(target)) {
                return i;
            }
        }
        return -1;
    }
    public static void main(String[] args) {
        List<Integer> intList = List.of(1, 2, 3, 4, 5);
        List<String> strList = List.of("dharu", "nandhu", "riya");

        System.out.println("Index of 3 in intList: " + findFirstOccurrence(intList, 3));
        System.out.println("Index of 'banana' in strList: " + findFirstOccurrence(strList,
"banana"));
        System.out.println("Index of 'grape' in strList: " + findFirstOccurrence(strList,
"grape"));
    }
}
```

OUTPUT:

Output

```
java -cp /tmp/mV3uNx1ME2/FindElementIndex  
Index of 3 in intList: 2  
Index of 'banana' in strList: -1  
Index of 'grape' in strList: -1  
  
=== Code Execution Successful ===
```