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CLASS	622-A

Experiment – 2.2 (Part – a) :

Title

Sum of Integers Using Autoboxing and Unboxing

Objective

To build a Java program that utilizes autoboxing and unboxing to calculate the sum of a list of integers. The program should also demonstrate parsing string inputs into integer values using methods like Integer.parseInt().

Task Description

This task focuses on:

- **Autoboxing:** Automatically converting primitive int values into Integer objects.

- **Unboxing:** Converting Integer objects back into primitive int.

- **String Parsing:** Using Integer.parseInt() to convert user input from strings to integers.

The program should:

- Accept multiple integer inputs as strings.

- Convert each string to an Integer using parsing methods.

- Store them in a collection like ArrayList<Integer>.

- Calculate and display the total sum using enhanced for-loops with unboxing.

Code :

```java
import java.util.ArrayList;

import java.util.Scanner;


public class SumUsingAutoboxing {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

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


        System.out.println("Enter integers separated by space:");

        String line = sc.nextLine();
```

```java
String[] parts = line.split("\\s+"); // split by whitespace


// Autoboxing via Integer.parseInt()

for (String part : parts) {

    try {

        Integer num = Integer.parseInt(part); // string → Integer (autoboxing)

        numbers.add(num);

    } catch (NumberFormatException e) {

        System.out.println("Skipping invalid input: " + part);

    }

}


int sum = 0;

// Enhanced for loop automatically unboxes Integer → int

for (Integer num : numbers) {

    sum += num; // unboxing here

}
```

```java
        System.out.println("Sum of entered integers: " + sum);

        sc.close();

    }

}
```
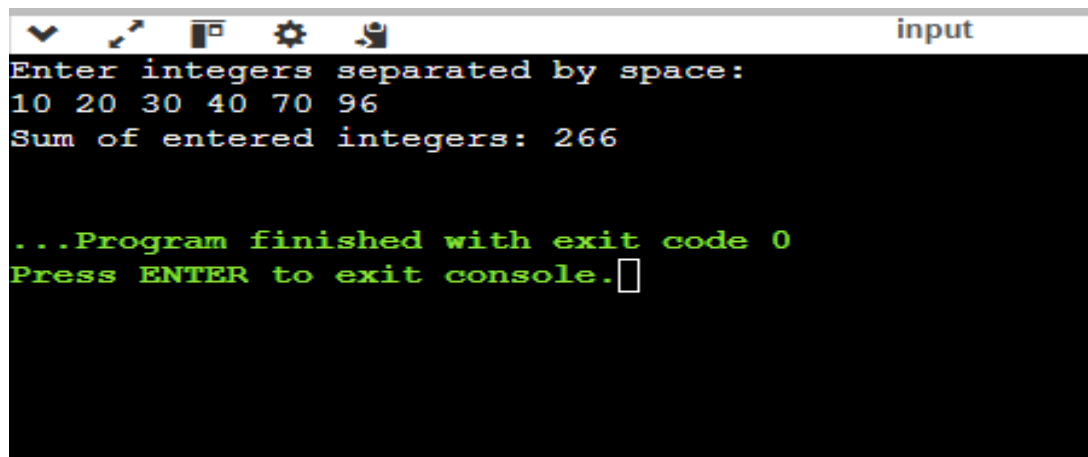
Output :