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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 :

```
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();
```

```
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
```

```
}
```

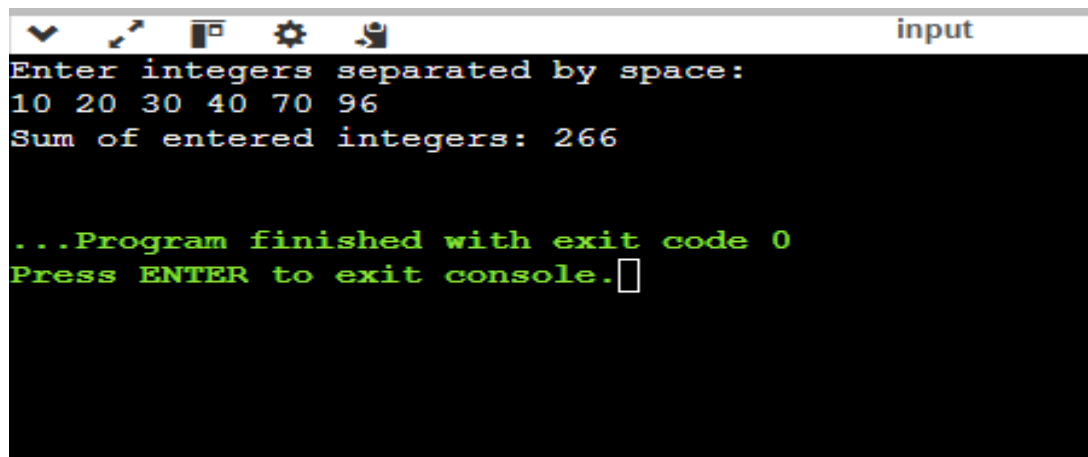
```
System.out.println("Sum of entered integers: " + sum);
```

```
sc.close();
```

```
}
```

```
}
```

Output :

A screenshot of a Java IDE's console window. The window has a title bar with standard icons and the name 'input'. The console output is as follows:

```
Enter integers separated by space:
10 20 30 40 70 96
Sum of entered integers: 266

...Program finished with exit code 0
Press ENTER to exit console.
```

The first three lines are in white text on a black background. The last two lines are in green text on a black background. A white cursor is visible at the end of the last line.