

JAVA EXAMPLES - SUMMATION OF NUMBERS

http://www.tutorialspoint.com/javaexamples/data_add.htm

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Problem Description:

How to print summation of n numbers?

Solution:

Following example demonstrates how to add first n natural numbers by using the concept of stack .

```
import java.io.IOException;

public class AdditionStack {
    static int num;
    static int ans;
    static Stack theStack;
    public static void main(String[] args)
    throws IOException {
        num = 50;
        stackAddition();
        System.out.println("Sum=" + ans);
    }
    public static void stackAddition() {
        theStack = new Stack(10000);
        ans = 0;
        while (num > 0) {
            theStack.push(num);
            --num;
        }
        while (!theStack.isEmpty()) {
            int newN = theStack.pop();
            ans += newN;
        }
    }
}

class Stack {
    private int maxSize;
    private int[] data;
    private int top;
    public Stack(int s) {
        maxSize = s;
        data = new int[maxSize];
        top = -1;
    }
    public void push(int p) {
        data[++top] = p;
    }
    public int pop() {
        return data[top--];
    }
    public int peek() {
        return data[top];
    }
    public boolean isEmpty() {
        return (top == -1);
    }
}
```

Result:

The above code sample will produce the following result.

```
Sum=1225
```

