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//code to perform formula operations using a stack
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package asgn6;
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public interface Stack
{
    public void push(String s);
    public String pop();
    public String peek();
    public boolean isEmpty();
}
```

```
package asgn6;
```

```
class ArrayStack implements Stack
{
    final int SIZE = 50;
    String[] stack;
    int count;

    public ArrayStack()
    {
        stack = new String[SIZE];
        count = 0;
    }

    public boolean isEmpty()
    {
        if (count == 0)
            return true;
        else
            return false;
    }

    public void push(String s)
    {
        if (count == SIZE)
        {
            System.out.println("Error: no more space");
        }
        else
        {
            stack[count] = s;
            count++;
        }
    }

    public String pop()
    {

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        String elem = null;
        if (!isEmpty())
        {
            elem = stack[count-1];
            count--;
        }
        return elem;
    }

    public String peek()
    {
        if (!isEmpty())
            return stack[count-1];
        else
            return null;
    }
}

```

```

package asgn6;

import java.util.Scanner;

public class StackDriver
{
    public static void main (String[]args) throws Exception
    {
        Scanner scan=new Scanner(System.in);
        System.out.println("Enter formula separated by space");
        String formula=scan.nextLine();
        String[] array=formula.split(" ");
        Integer result=0;
        Integer num1=0;
        Integer num2=0;

        ArrayStack list = new ArrayStack();
        for(int i=0;i<array.length;i++)
        {
            if (array[i].matches("\\d+"))
            {
                list.push(array[i]);
            }
            if (array[i].equals("+"))
            {
                num2=Integer.parseInt(list.pop());
                num1=Integer.parseInt(list.pop());
                result=num1+num2;
                list.push(String.valueOf(result));
            }
            if (array[i].equals("/"))

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        {
            num2=Integer.parseInt(list.pop());
            num1=Integer.parseInt(list.pop());
            result=num1/num2;

            list.push(String.valueOf(result));
        }
        if (array[i].equals("-"))
        {
            num2=Integer.parseInt(list.pop());
            num1=Integer.parseInt(list.pop());
            result=num1-num2;

            list.push(String.valueOf(result));
        }
        if (array[i].equals("*"))
        {
            num2=Integer.parseInt(list.pop());
            num1=Integer.parseInt(list.pop());
            result=num1*num2;

            list.push(String.valueOf(result));
        }
    }

    System.out.println("the answer is " +list.pop());
}

```