

## Problem Statement:

You will be given a string of integers along with the operations to be performed on those numbers. You need to push numbers directly into the stack.

The operations which need to be performed are,

- "DUP": Duplicates the element at stack top.

(There should be at least one element present in the stack to perform this operation.)

- "POP": Removes an element from stack top.

(There should be at least one element present in the stack to perform this operation.)

- "+": Remove the top two elements from the stack. Add them and push the result into the stack.

There should be at least two elements present in the stack to perform this operation.

- "-": Remove the top two elements from the stack. Subtract them and push the result into the stack.

(There should be at least two elements present in the stack to perform this operation & The top element should be greater than the element below it.)

You need to build a processor for this type of string. And once you are done processing you should return the stack top. If there is anything wrong, then you should return -1.

Example 1:

Input : "13 7 20 DUP - +"

Output: 7

Example 2:

Input : "13 20 12 7 - +"

Output : -1

Example 3:

Input : "13 20 7 12 - +"

Output: 25

Example 4:

Input : "12 POP DUP"

Output : -1

Example 5:

Input : "12 +"

Output : -1

Input	Output
{ "input" : "13 7 20 DUP - +" }	{ "output" : 7 }
{ "input" : "13 20 12 7 - +" }	{ "output" : -1 }
{ "input" : "13 20 7 12 - +" }	{ "output" : 25 }
{ "input" : "12 POP DUP" }	{ "output" : -1 }
{ "input" : "12 +" }	{ "output" : -1 }

### Our expectations:

- 1.) We expect you to come up with a **simple console application** in the **language of your choice**. There is no need for a UI or a web app.
- 2.) We are looking for a **simple, modular, and robust design**. So focus on your best OO/ functional programming skills.
- 3.) Please provide ample **unit test** case coverage.
- 4.) Please stay within the boundaries defined in the problem. Avoid over-thinking and over-engineering.
- 5.) If you are using any libraries, please mention them in a README.
- 6.) Submit your solution in a zip folder