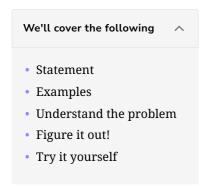
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Basic Calculator

Try to solve the Basic Calculator problem.



Statement

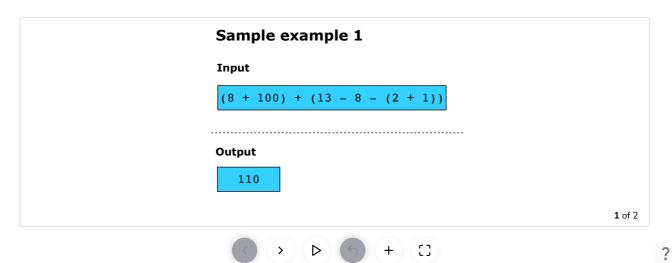
Given a string containing an arithmetic expression, implement a basic calculator that evaluates the expression string. The expression string can contain integer numeric values and should be able to handle the "+" and "-" operators, as well as "()" parentheses.

Constraints:

Let s be the expression string. We can assume the following constraints:

- $1 \leq \text{s.length} \leq 3 \times 10^3$
- s consists of digits, "+", "-", "(", and ")".
- s represents a valid expression.
- "+" is not used as a unary operation (+1 and +(2+3) are invalid).
- "-" could be used as a unary operation (-1 and -(2+3) are valid).
- There will be no two consecutive operators in the input.
- Every number and running calculation will fit in a signed 32-bit integer.

Examples



Understand the problem

Let's take a moment to make sure you've correctly understood the problem. The quiz below helps you check if you're solving the correct problem:

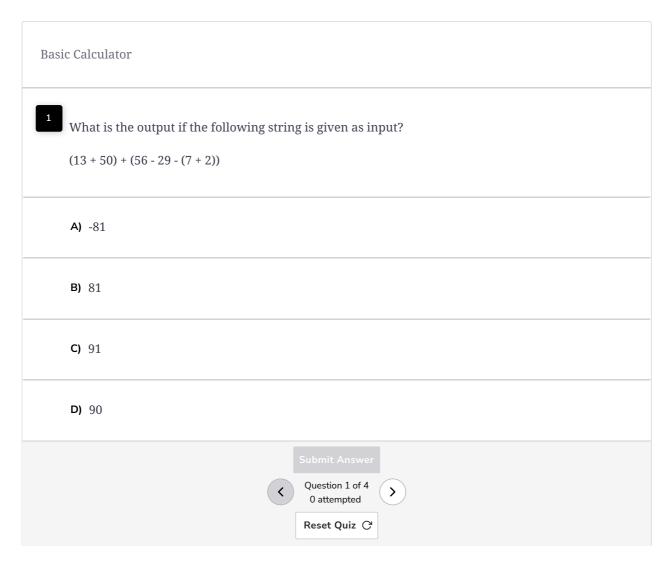
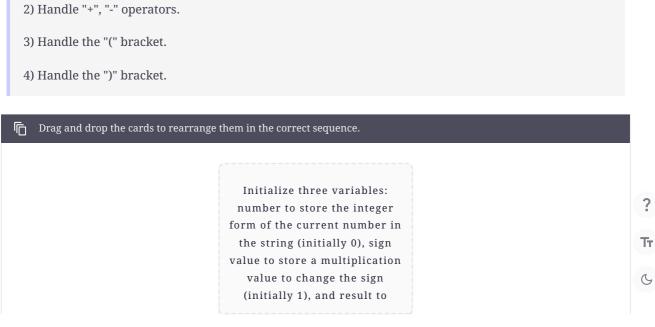


Figure it out!

We have a game for you to play. Rearrange the logical building blocks to develop a clearer understanding of how to solve this problem.

Note: We'll evaluate the expression in the following sequence: 1) Convert consecutive digits into a single operand.



store the evaluated result of different operations (initially 0).

Upon encountering a digit character, update the number variable by multiplying its existing value by 10 and adding the integer value of the digit character to it: $number = number \times 10 + digit$

Upon encountering a '('
character, push the value of
the result variable and then
the sign value onto the stack.
In addition, reset the value of
the sign value, and result
variable to 1, 0 respectively.

Upon encountering a '+' or '-'
character, change the sign
value variable to 1 or -1
respectively. Then evaluate
the expression on the left by
multiplying the existing value
of the result variable by the
sign value variable and
adding the number to this:
result = number + (result ×
sign value)
In addition, reset the value of
the number variable to 0.

Upon encountering a ')'
character, update the result
variable to evaluate the
expression within the
parenthesis:
result = number + (result ×
sign value)
Then pop the sign value and
stored digit from the stack
and update the result variable
again:
result = (result × sign value)
+ digit
In addition, reset the value of
the number variable to 0.

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Reset Show Solution



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Implement your solution in the following coding playground:

