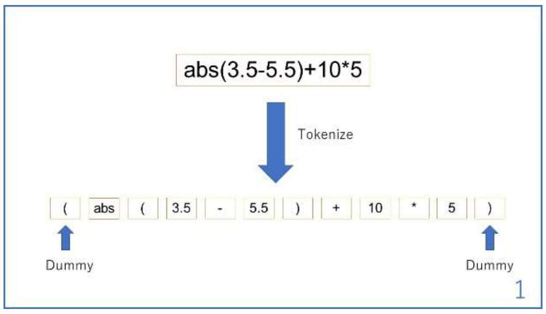
Calculator

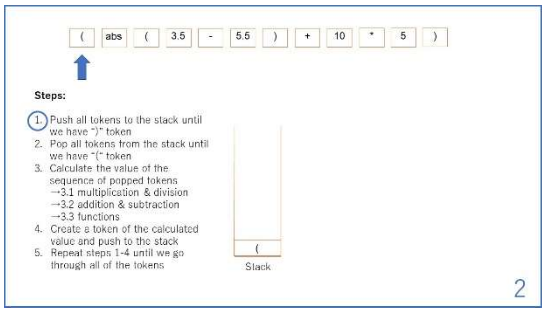
Naho Yokoyama

Overview

This program implements a calculator. When a user inputs a mathematical expression, the program will calculate and returns its value. This program supports calculation including addition, subtraction, multiplication, division, the use of parenthesis, absolute value function, integer value function, and round function.

How this program works





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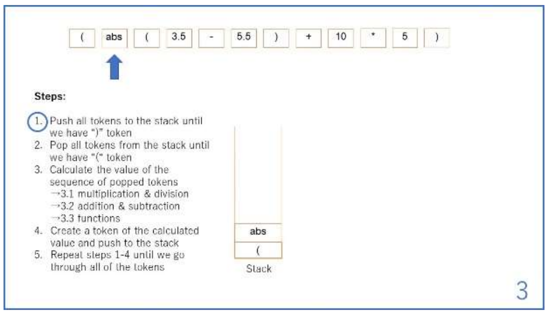

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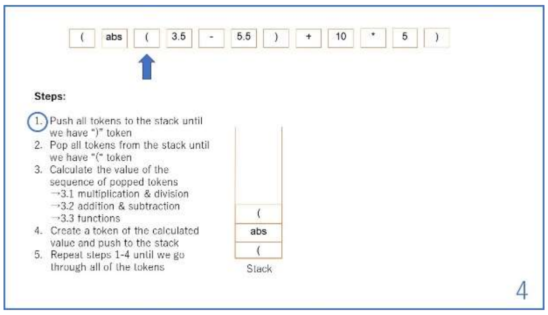

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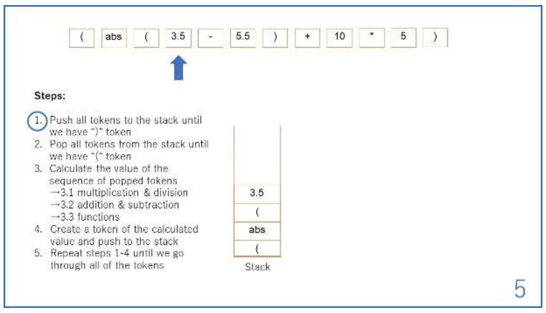

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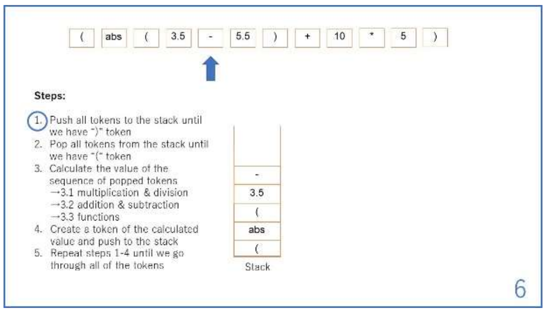

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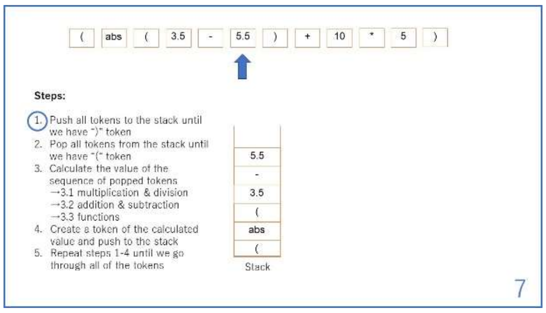

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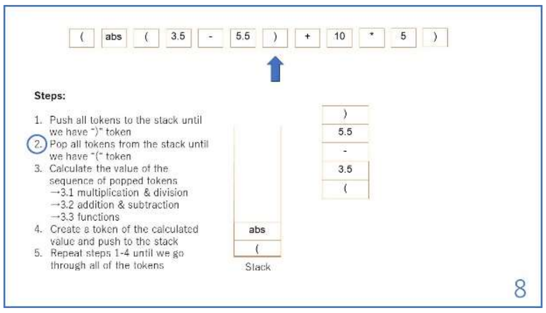

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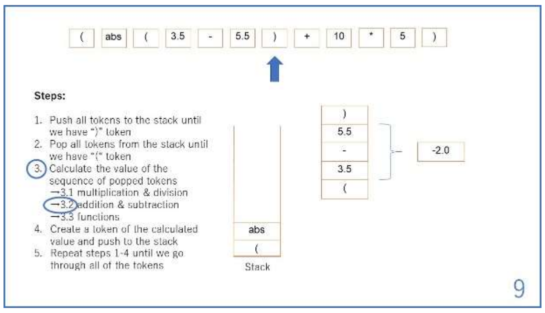
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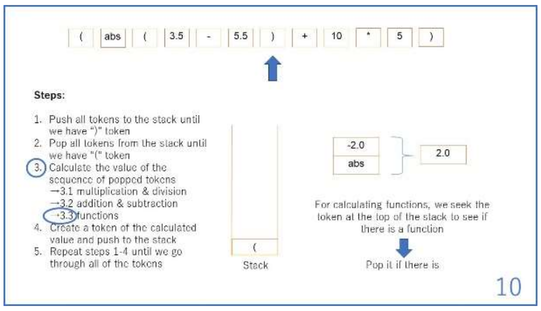
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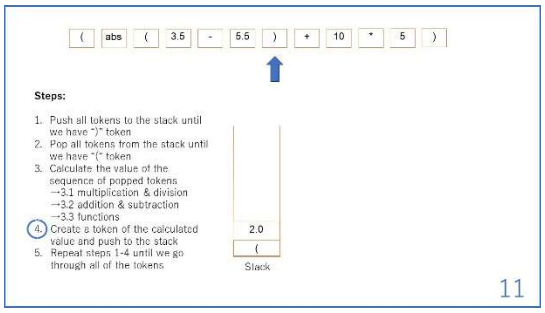
For calculating functions, we seek the token at the top of the stack to see if there is a function

Pop it if there is

10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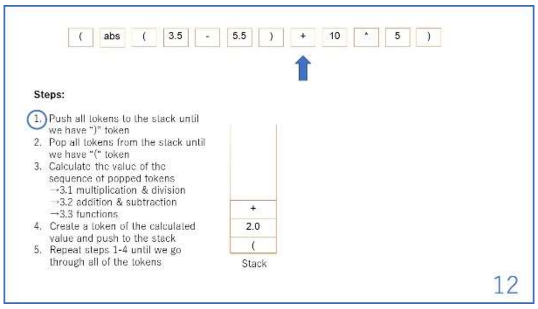
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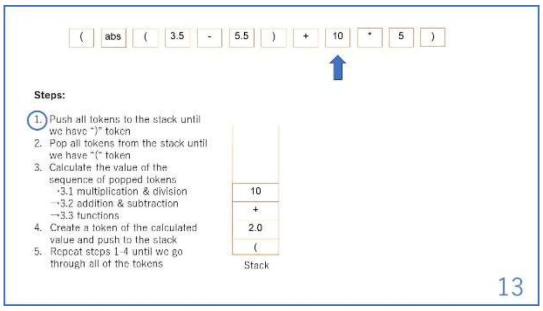
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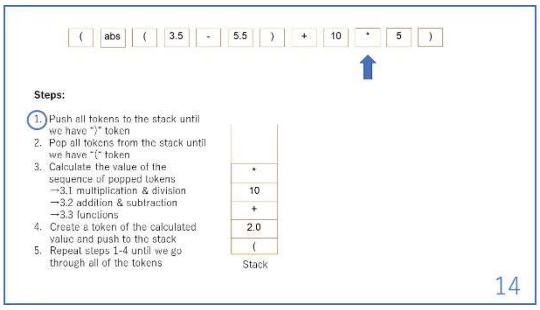
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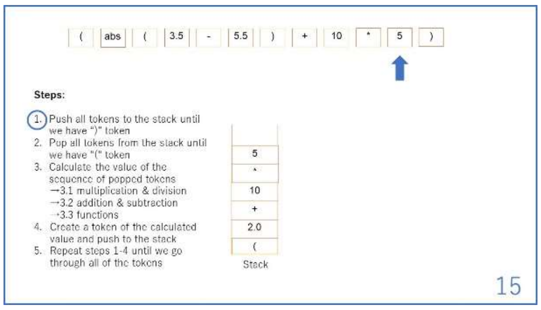
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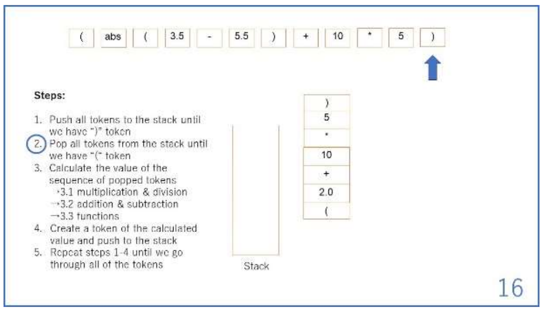
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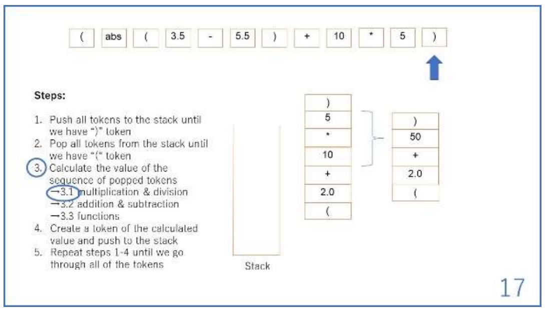
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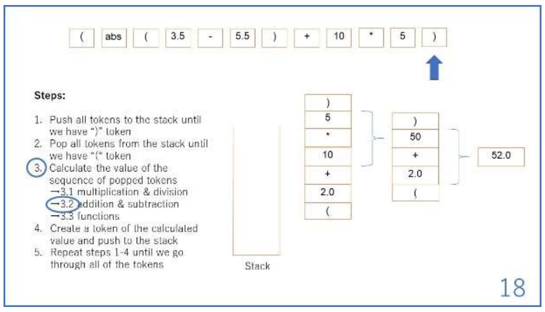
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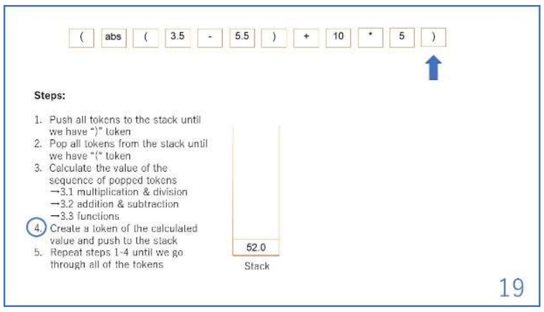

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Stack

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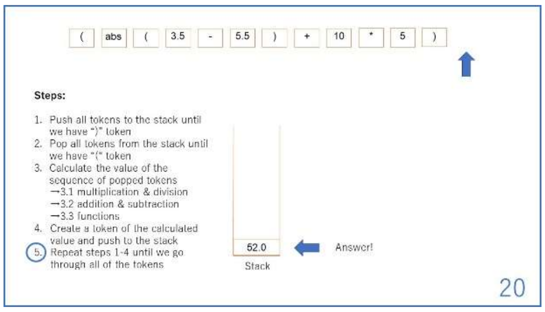

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Answer!

Stack

20

Input's tolerance

Allow

・negative numbers (ex. "-1+-5" will be evaluated as -6)

・use of more parenthesis than necessary (ex. "(((((5+5)))))")

・too many open parenthesis (outer parenthesis will be ignored, ex. "(3+5*2" becomes 13)

　→"eval" function to calculated expected answer will returns an error though

Not allow

・division by zero

・space between characters (ex. "1 + 5")

・incomplete input of decimals (ex. ".5")

・Too many close parenthesis (ex. "3+5)")