

Given a non-empty matrix `puzzle` of characters consisting of only single digits, `+`, and `-` values. Your task is to return the maximum value which is evaluated using a *valid expression* from the `puzzle`.

It is guaranteed that at least one numeric value will be present in the `puzzle`.

A *valid expression* satisfies all the conditions stated

A valid expression satisfies all the conditions stated below:

- Starts from any cell with a numeric value.
- From the starting cell, it goes only from left to right, or only top to the bottom, without changing the direction in the middle.
- The final expression doesn't contain any consecutive operators (e.g. $3 + - 2$ is not

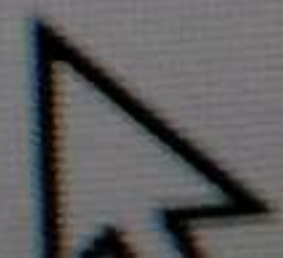
right, or only top to the bottom, without changing the direction in the middle.

- The final expression doesn't contain any consecutive operators (e.g. $3 + - 2$ is not correct).
- The final expression doesn't contain any consecutive numeric values (e.g. $3 + 4 4$ is not correct).

Please see the video for valid and invalid expression

Note: If you are unable to view the video properly, please use [this link](#) to access it.

Note: You are not expected to provide the most optimal solution, but a solution with time complexity not worse than $O(\text{puzzle.length}^2)$. $\text{puzzle}[0].\text{length}^2$ will fit within the execution time limit.

Example 

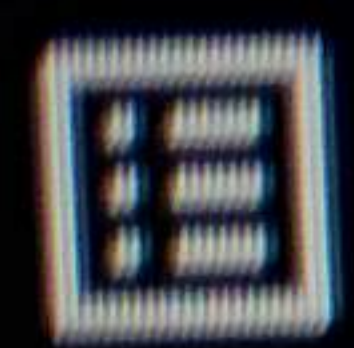


HISTORY

Example

- For

```
puzzle = [  
    ['9', '+', '3', '-', '2'],  
    ['+', '2', '+', '3', '+'],  
    ['1', '-', '4', '-', '4'],  
    ['-', '2', '-', '7', '+'],  
    ['4', '+', '3', '+', '9'],  
    ['+', '1', '+', '8', '-'],  
    ['7', '-', '0', '-', '2']  
]
```



RULES



INFO



Explanation:

Some of the valid expressions are present below:

- $9 + 1 - 4 + 7$ equals to 13
- $4 + 3 + 9$ equals to 16
- $7 + 8$ equals to 15

There is no single expression with a value larger than 16. Note, that expression $7 + 4 - 1 + 9$ is not valid, as it goes from bottom to top.

7 + 3 + 9 equals to 16

- 7 + 8 equals to 15

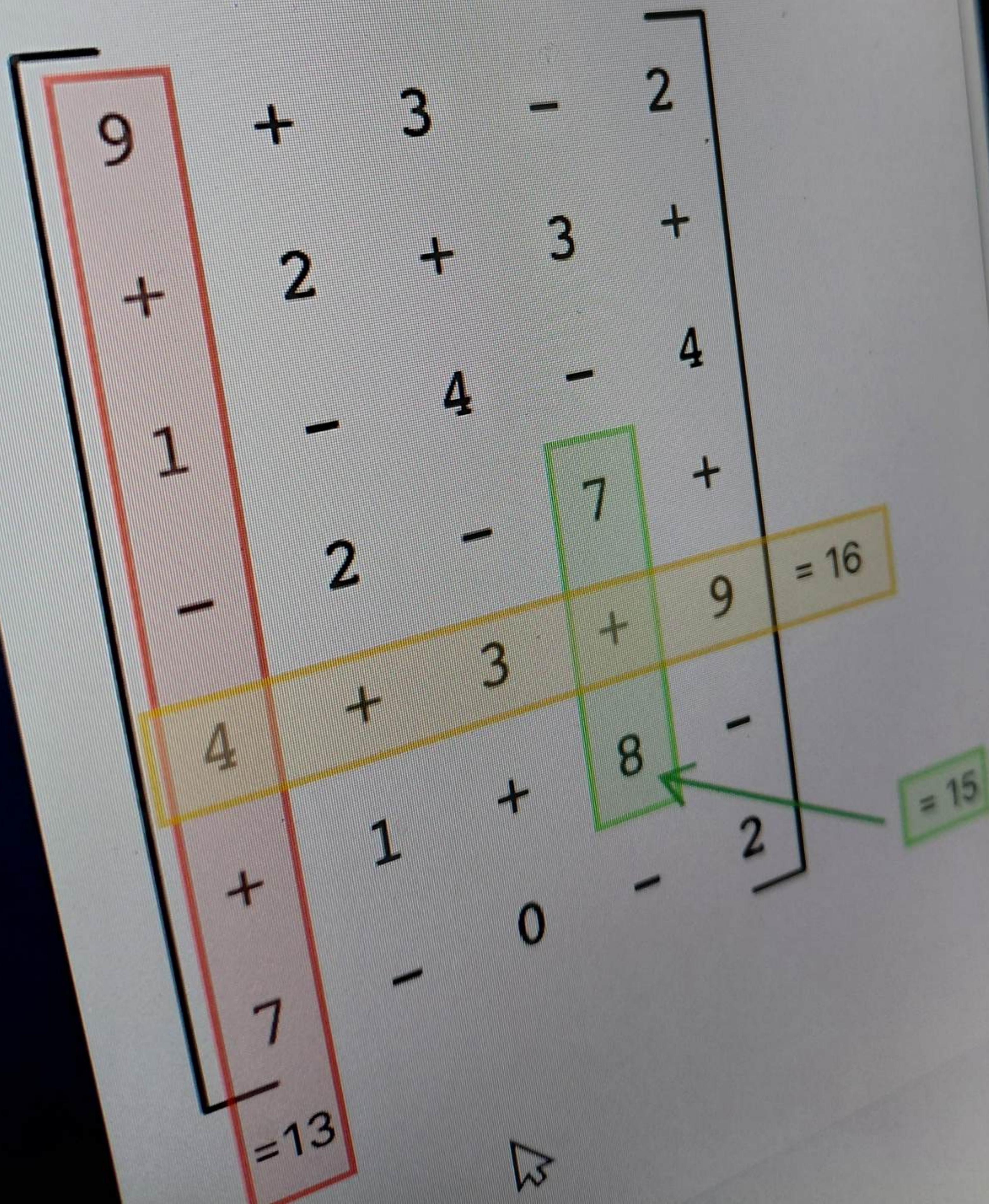
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main.py3

```
1 def solution(p)
2
3
```

There is no single expression with a value larger than

16. Note, that expression $7 + 4 - 1 + 9$ is not valid, as it goes from bottom to top.



TESTS


```
puzzle = [  
    ['-', '+', '3', '-', '2'],  
    ['-', '2', '3', '3', '+'],  
    ['1', '8', '4', '-', '-'],  
    ['+', '2', '-', '7', '+'],  
    ['2', '+', '-', '+', '9'],  
    ['+', '1', '+', '1', '0'],  
    ['2', '-', '0', '-', '2']  
]
```

the output should be `solution(puzzle) = 9`.


```
[ '+', '2', '-', '7', '+'],  
[ '2', '+', '-', '+', '9'],  
[ '+', '1', '+', '1', '0'],  
[ '2', '-', '0', '-', '2']  
]
```

the output should be `solution(puzzle) = 9`.

Explanation:

The value `9` (`puzzle[4][4]`) in itself is a valid expression with the maximum value.

Input/Output