Day 5: Template Literals ★

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10 Days of JS

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Objective

In this challenge, we practice using JavaScript Template Literals. Check the attached tutorial for more details.

Task

The code in the editor has a tagged template literal that passes the area and perimeter of a rectangle to a tag function named sides. Recall that the first argument of a tag function is an array of string literals from the template, and the subsequent values are the template's respective expression values.

Complete the function in the editor so that it does the following:

1. Finds the initial values of s_1 and s_2 by plugging the area and perimeter values into the formula:

$$s = \frac{P \pm \sqrt{P^2 - 16 \cdot A}}{4}$$

where A is the rectangle's area and P is its perimeter.

2. Creates an array consisting of s_1 and s_2 and sorts it in ascending order.
3. Returns the sorted array.

Input Format

The first line contains an integer denoting s_1.

The second line contains an integer denoting s_2.

Constraints

- $1 \leq s_1, s_2 \leq 100$

Output Format

Return an array consisting of s_1 and s_2, sorted in ascending order.

Sample Input 0

```
10
14
```

Sample Output 0

```
10
14
```

Explanation 0

The locked code in the editor passes the following arrays to the tag function:

- The value of *literals* is `[ 'The area is: ', '.\nThe perimeter is: ', '.' ]`.
- The value of *expressions* is `[ 140, 48 ]`, where the first value denotes the rectangle's area, A, and the second value denotes its perimeter, P.

When we plug those values into our formula, we get the following:

$$s_1 = \frac{P + \sqrt{P^2 - 16 \cdot A}}{4} = \frac{48 + \sqrt{48^2 - 16 \cdot 140}}{4} = \frac{48 + 8}{4} = 14$$

$$s_2 = \frac{P - \sqrt{P^2 - 16 \cdot A}}{4} = \frac{48 - \sqrt{48^2 - 16 \cdot 140}}{4} = \frac{48 - 8}{4} = 10$$

We then store these values in an array, `[14, 10]`, sort the array, and return the sorted array, `[10, 14]`, as our answer.

Change Theme Language: JavaScript (Node.js)

```
 */
function sides(literals, ...expressions) {

    const area = expressions[0]
    const peri = expressions[1]

    const d = Math.sqrt(peri*peri - 16*area)

    const s1 = (peri+d)/4
    const s2 = (peri-d)/4

    return [s1,s2].sort()
}


function main() {
    let s1 = +(readLine());
    let s2 = +(readLine());

    [s1, s2] = [s1, s2].sort();

    const [x, y] = sides`The area is: ${s1 * s2}.\nThe perimeter is: ${2 * (s1 + s2)}.`;

    console.log((s1 === x) ? s1 : -1);
```

Line: 42 Col: 24

Upload Code as File Test against custom input Run Code Submit Code

Congratulations!

You have passed the sample test cases. Click the submit button to run your code against all the test cases.

Sample Test case 0

Input (stdin) Download

```
10
14
```

Your Output (stdout)

```
10
14
```

Expected Output Download

```
10
14
```