



## Challenge 3: Design a Calculator

Test your problem-solving skills in this difficult challenge.

We'll cover the following



- Problem statement
  - test function
  - Sample input
  - Sample output
- Coding exercise

### Problem statement#

The aim of this challenge is to design a calculator that takes operands in its input and performs one of the following operations on them:

- Addition
- Subtraction
- Multiplication
- Division

### test function#

You have to write a function `test` that takes two values of type `double` and one value of type `char` in its input parameters.

`double test ( double number1, char operate, double number2 )`

- number1 and number2 take the values of the operands.
- operate can take +, −, \*, and / in its value.
  - If the value of operate is +, then it should call the function that adds the values of number1 and number2 and returns the result in the output.
  - If the value of operate is −, then it should call the function that subtracts the value of number2 from number1 and returns the result in the output.
  - If the value of operate is \*, then it should call the function that multiplies the value of number1 by number2 and returns the result in the output.
  - If the value of operate is /, then it should call the function that divides the value of number1 by number2 and returns the result in the output.
  - For any other value of operate, it should return -1 in the output.

## Sample input#

```
test(7.9 , + , 6.2 )
test(7.9 , - , 6.2 )
test(7.9 , * , 6.2 )
test(7.9 , / , 6.2 )
test(7.9 , = , 6.2 )
```

## Sample output#



```
14.100000
1.700000
48.980000
1.274194
-1.000000
```

## Coding exercise#

Before diving directly into the solution, try to solve it yourself. Then, check if your code passes all the test cases.

 Your function name should be `test`.

Good luck! 🍀

```
21 double test(double number1, char operate, double number2) {
22     double result;
23
24     switch (operate) {
25     case '+':
26         result = add(number1, number2);
27         break;
28
29     case '-':
30         result = subtract(number1, number2);
31         break;
32
33     case '*':
34         result = multiply(number1, number2);
35         break;
36
37     case '/':
38         result = divide(number1, number2);
39         break;
40
41     default:
```



(/learn)

```

41     result = 0;
42     result = -1;
43 }
44
45 return result;
46
47 }
48

```



Show Results

Show Console



1.66s

5 of 5 Tests Passed

Result	Input	Expected Output	Actual Output	Reason
✓	test(7.9 , + , 6.2 )	14.100000	14.100000	Succeeded
✓	test(7.9 , - , 6.2 )	1.700000	1.700000	Succeeded
✓	test(7.9 , * , 6.2 )	48.980000	48.980000	Succeeded
✓	test(7.9 , / , 6.2 )	1.274194	1.274194	Succeeded
✓	test(7.9 , = , 6.2 )	-1.000000	-1.000000	Succeeded

Great! You have just designed the calculator.

In case you are stuck, go over the solution review in the next lesson.

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