Challenge 3: Design a Calculator

Let's test our problem-solving skills through a difficult challenge.

We'll cover the following

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

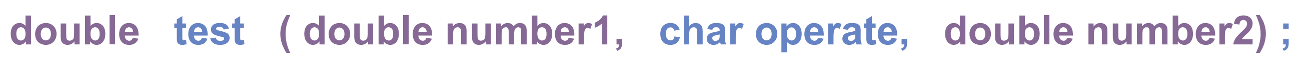
Problem statement

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
```

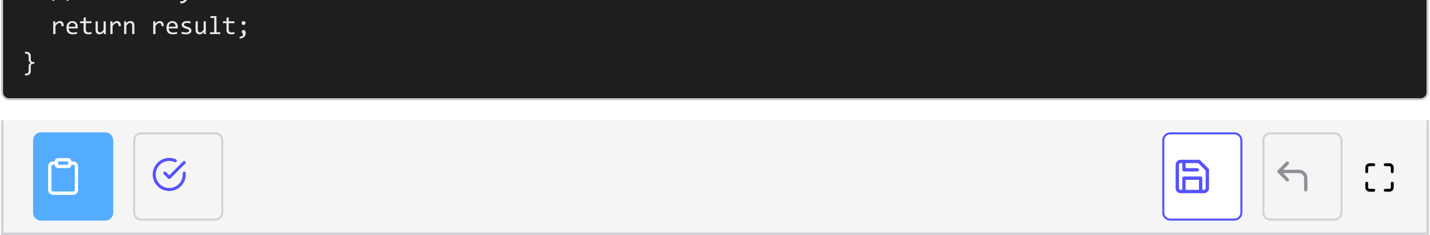
Coding exercise

Before diving directly into the solution, first, try to solve it yourself, and then check if your code passes all the test cases. If you get stuck, you can always see the given solution.

> 📝 Your function name should be `test` .

Good Luck! 👍

```
double test(double number1, char operate, double number2) {
  double result;
  // Write your code here
```



```
  return result;
}
```

🎉 Great! You have just designed the calculator.

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