Assignment-4

(Calculator API)

You need to build a Calculator API Contract application which performs the following operations:

- Addition
- Subtraction
- Multiplication
- Division

Before you start implementing the above operations, you need to check that your server is working fine. For that, perform a GET request which lets you land on the home page successfully with the message `Hello world!`. After that, you need to implement the following **POST** requests: The input may contain positive, negative, and floating-point numbers. Request body parameters for all endpoints:

- num1
- num2

1. **/add**

Response:
```
{ status: "success"|"failure"|"error",
 message: "the sum of given two numbers",
sum: num1+num2 }
```

2. **/sub**

Response:
```
{ status: "success"|"failure"|"error",
  message: "the difference of given two numbers",
  difference: num1-num2 }
```

3. **/multiply**

Response:
```
{ status: "success"|"failure"|"error",
  message: "The product of given numbers",
  result: num1*num2 }
```

4. **/divide**

Response:
```
{ status: "success"|"failure"|"error",
  message: "The division of given numbers",
  result: num1/num2 }
```

5. The status should be **"error"** in the following cases:
  - num2 is 0 for endpoint **/divide**. In this case, the message should be `"Cannot divide by zero"`
  - The request body parameters contain values less than -1M(10 lakhs), or the result is < -1M. In this case, the message should be `"Underflow"`
  - The request body parameters contain values above 1M(10 lakhs), or the result is > 1M. In this case, the message should be `"Overflow"`
  - The request body parameters contain Strings. In this case, the message should be `"Invalid data types"`.

6. Use status code 200 for success and 400 for error

Note: Please keep in mind you need to print messages as stated in the problem statement"

Submission steps:
Please download the zip file. Complete the template code and submit it.

Zip file link:
https://drive.google.com/file/d/1Lzl8dC23sT-j6OMAyVd8S76H8sFrPyaF/view?usp=sharing