

# 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 sum 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".

**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>