# Assignment

**Learner Details**

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- **Batch / Class: June 2025 MERN**
- **Assignment: Technical Assignment**
- **Date of Submission: 12/08/2025**

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**Problem Solving Activity**

**1. Program Statement**

Create a mathUtils.js using Common.js module and ES6 modules.mathUtils.js should have functions to add, subtract, multiply, divide, modulus operations.

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**2. Algorithm**

- Start the program.
- Define five functions: add, subtract, multiply, divide, and modulus.
- Each function should take two numbers as input parameters.
- Return the result for each operation.
- Export the functions:
    - For **CommonJS**, use module.exports.
    - For **ES6 modules**, use export keyword.
- In the main file:
    - Import the functions depending on module type.
    - Call each function with test inputs.
    - Print the results to the console.
- End the program.

**3. Pseudocode**

```
FUNCTION add(a, b)
    RETURN a + b

FUNCTION subtract(a, b)
    RETURN a - b

FUNCTION multiply(a, b)
    RETURN a * b

FUNCTION divide(a, b)
        RETURN a / b

FUNCTION modulus(a, b)
    RETURN a % b
```

EXPORT functions based on module type:

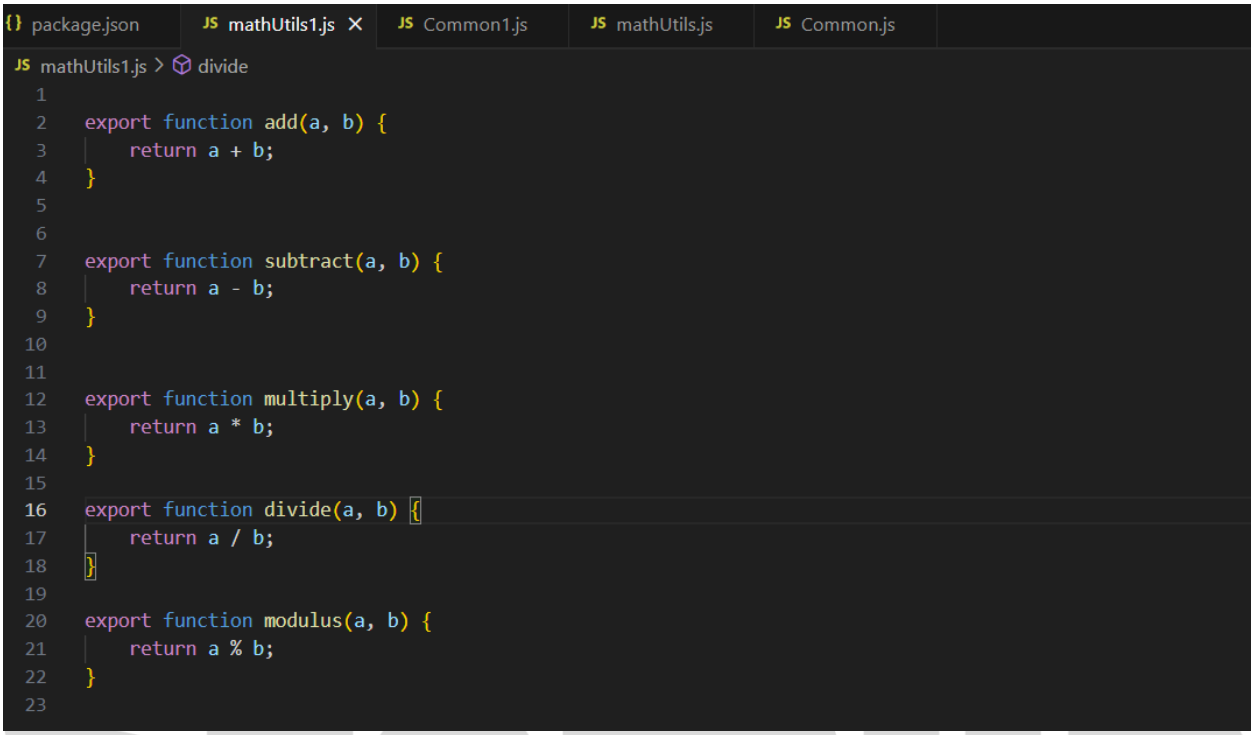
- CommonJS: module.exports = { add, subtract, multiply, divide, modulus }
- ES6: export { add, subtract, multiply, divide, modulus }

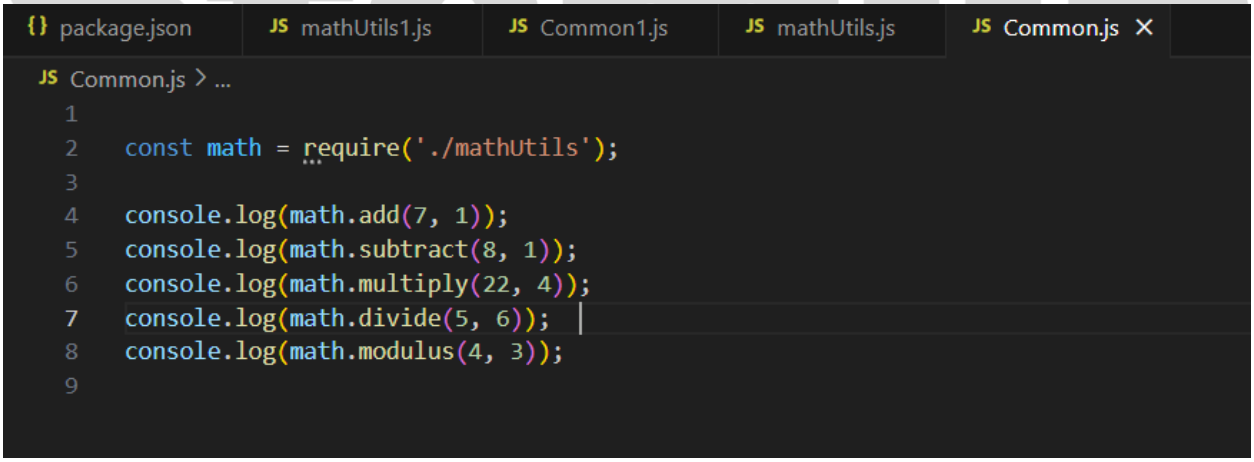
MAIN PROGRAM:

```
    IMPORT functions
    PRINT add(a, b)
    PRINT subtract(a, b)
    PRINT multiply(a, b)
    PRINT divide(a, b)
```

PRINT modulus(a, b)

## 4. Program Code



package.json | mathUtils1.js | Common1.js | mathUtils.js | Common.js

mathUtils1.js > divide

```
1
2   export function add(a, b) {
3       return a + b;
4   }
5
6
7   export function subtract(a, b) {
8       return a - b;
9   }
10
11
12  export function multiply(a, b) {
13      return a * b;
14  }
15
16  export function divide(a, b) {
17      return a / b;
18  }
19
20  export function modulus(a, b) {
21      return a % b;
22  }
23
```

package.json | mathUtils1.js | Common1.js | mathUtils.js | Common.js

Common1.js

```
1
2   import { add, subtract, multiply, divide, modulus } from './mathUtils1.js';
3
4   console.log(add(2, 4));
5   console.log(subtract(2, 4));
6   console.log(multiply(2, 5));
7   console.log(divide(2, 1));
8   console.log(modulus(8, 5));
9
```

## 5. Screenshots of Output

```
PS C:\Users\Lenovo\OneDrive\Desktop\StemUp Practice\Assignments from 30072025\12-08-2025> node .\Common.js
8
7
88
0.8333333333333334
1
```

```
PS C:\Users\Lenovo\OneDrive\Desktop\StemUp Practice\Assignments from 30072025\12-08-2025> node .\Common1.js
6
-2
10
2
3
```

## 6. Observation / Reflection

While doing this assignment, I found it a bit tricky to make the code work for both CommonJS and ES6 modules, and to make sure division by zero was handled properly. I learned the difference between module.exports and export, and how to write simple, reusable functions. Next time, I would like to add automatic tests using tools like Jest to check the results more easily.