```
arpit                    int sum(int num)
                         {

                         }
sum(5);                  1+2+..n
         15


         validateFirstname(firstname)
         {
                  return "Firstname can not be null" / " can have only alphabets and . "
                  return ""
         }

         validateFirstname("abcd");
         ""
         validateFirstname("abcd#434");
         can have only alphabets and .

         validateFirstname("");
         can not be blank
```

1 Download jasmine framework
2 Extract the framework zip file

3   src
                    keep js logic files
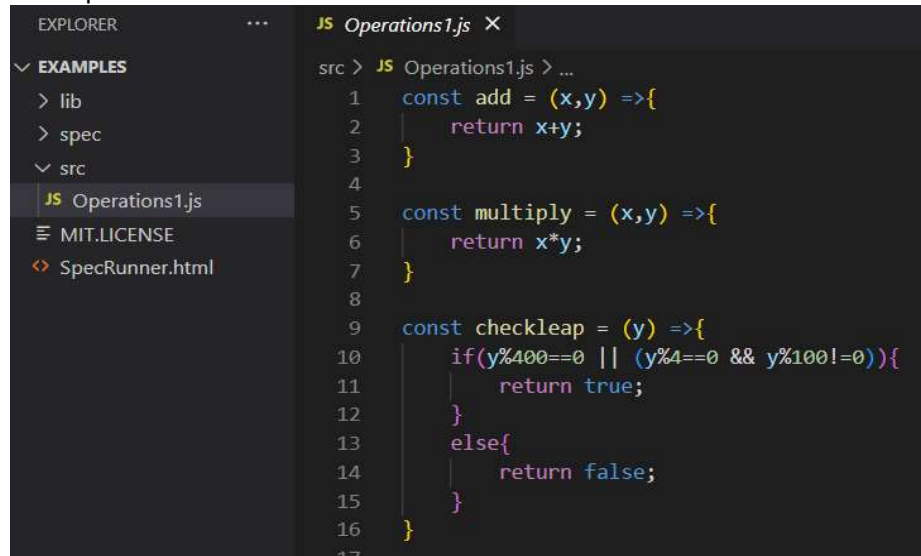
           spec
                    keep test case files

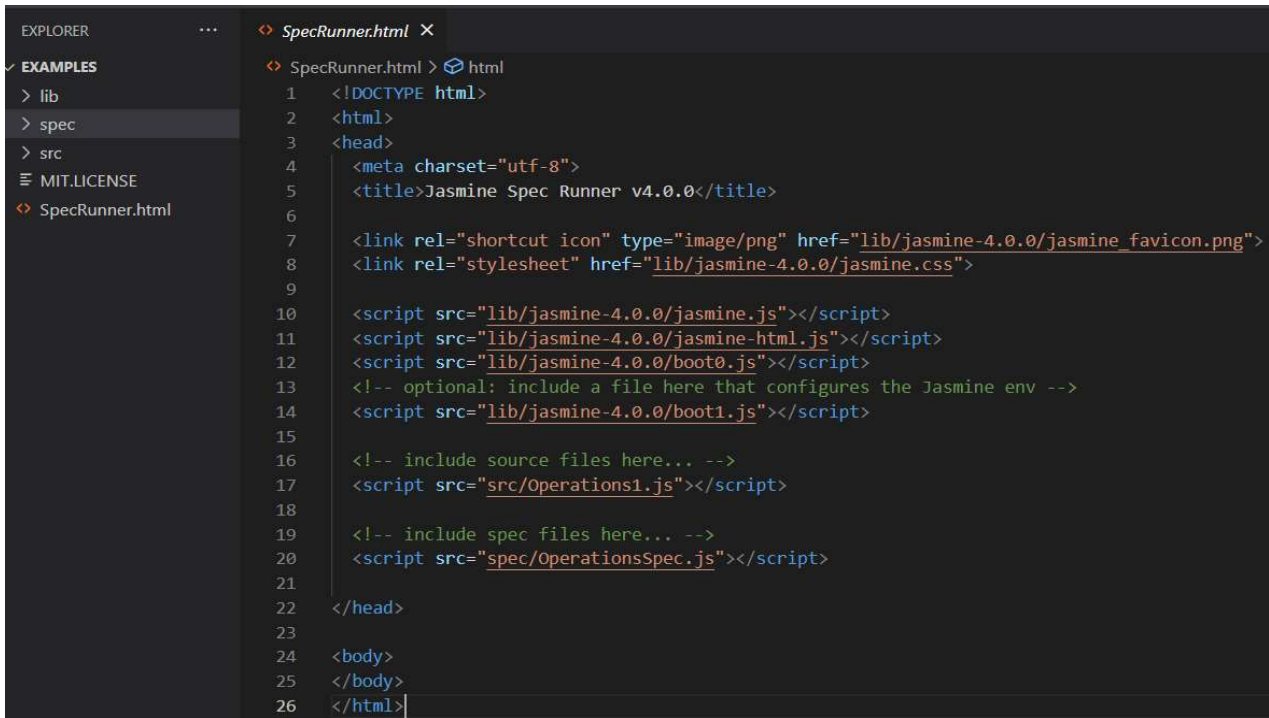4 SpecRunner.html

add above js files references

example src folder


```javascript
const add = (x,y) =>{
    return x+y;
}

const multiply = (x,y) =>{
    return x*y;
}

const checkleap = (y) =>{
    if(y%400==0 || (y%4==0 && y%100!=0)){
        return true;
    }
    else{
        return false;
    }
}
```

spec example

```
spec > JS OperationsSpec.js > ...
  1
  2    // describe() creates testsuite
  3    describe("Operations-add() method testing", ()=>{
  4
  5        // in testsuite, creates test case
  6        it("Test add() with positive result", ()=>{
  7            expect(add(3,4)).toEqual(7);
  8        });
  9        it("Test add() with positive result", ()=>{
 10            expect(add(4,9)).toEqual(13);
 11        });
 12
 13    });
 14
 15    describe("Operations-checkleap() method testing", ()=>{
 16
 17        it("Test checkleap() : passing leap", ()=>{
 18            expect(checkleap(2023)).toBeFalsy();
 19        });
 20
 21
 22        it("Test checkleap() : passing non leap", ()=>{
 23            expect(checkleap(2024)).toBeTruthy();
 24        });
 25
 26    });
 27
```

add src / spec js files references in html file

```html
SpecRunner.html > html
1    <!DOCTYPE html>
2    <html>
3    <head>
4      <meta charset="utf-8">
5      <title>Jasmine Spec Runner v4.0.0</title>
6
7      <link rel="shortcut icon" type="image/png" href="lib/jasmine-4.0.0/jasmine_favicon.png">
8      <link rel="stylesheet" href="lib/jasmine-4.0.0/jasmine.css">
9
10     <script src="lib/jasmine-4.0.0/jasmine.js"></script>
11     <script src="lib/jasmine-4.0.0/jasmine-html.js"></script>
12     <script src="lib/jasmine-4.0.0/boot0.js"></script>
13     <!-- optional: include a file here that configures the Jasmine env -->
14     <script src="lib/jasmine-4.0.0/boot1.js"></script>
15
16     <!-- include source files here... -->
17     <script src="src/Operations1.js"></script>
18
19     <!-- include spec files here... -->
20     <script src="spec/OperationsSpec.js"></script>
21
22   </head>
23
24   <body>
25   </body>
26   </html>
```

describe ( )
        used to make test suite

describe (___ , ___);
title of test suite

callback with test case(s)

it()
        used to make testcase

describe (___ , ___);
title of testcase

callback with function test