

## IS 312 Web Design: TypeScript (TS) for Modern Web Application HOP08: Bugs, Errors, and Regular Expressions

9/5/2019, Developed by Kevin Kuanting Chen, Class of 2020

5/18/2020, Revised by Amrutha Vaidyanathan, Class of 2020

9/23/2020, Revised by Kim Nguyen, Class of 2021

School of Technology & Computing (STC)  
City University of Seattle (CityU)



### Before You Start

- The directory path shown in screenshots may be different from yours.
- Some steps are not explained in the tutorial. If you are not sure what to do:
  1. Consult the resources listed below.
  2. If you cannot solve the problem after a few tries, ask a TA for help.

### Learning Outcomes

Students will be able to:

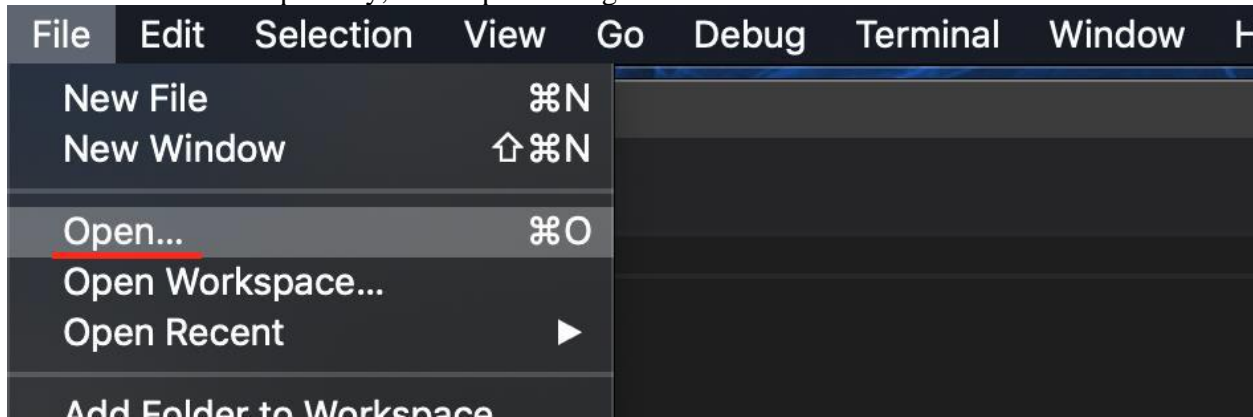
- Understand Error handling approaches in TypeScript.

### Resources

- [W3School Data Types](#)

## Preparation

1. Open the VS Code and open the repository you cloned from Github, if you have not cloned, go back to the Github repository generated when you accept the HOP assignment, read the instruction on how to clone the repository, before proceeding.



2. Open the terminal from the VSCode, check your current directory using the following command, if you are in **Module 6**, you are in the right place:

## Exception handling

1) You can return *null* to handle an exceptional situation. Create a file called **test\_string.ts** under the folder.

```

1  let str: string[] = [ 'AB', 'Ac', null, '', 'sT', 'r', 'V', '2'];
2
3  function testString(input: string): string {
4
5      if(input) {
6          // MORE CODE HERE
7          // ...
8          return 'The string contains "' + input + '".';
9      }
10     else {
11         // return null if the string input is nothing.
12         return null;
13     }
14 }
15
16 str.forEach(item => console.log(testString(item)));

```

2) Compile your TypeScript code and run the JavaScript file.

```

>>> tsc test_string.ts
>>> node test_string.js

```

```

The string contains "AB".
The string contains "Ac".
null
null
The string contains "sT".
The string contains "r".
The string contains "V".
The string contains "2".

```

- 3) Update the `test_string.ts` file to match the following picture.

```

1  let str: string[] = [ 'AB', 'Ac', null, '', 'sT', 'r', 'V', '2'];
2
3  function testString(input: string): string {
4
5      if(input) {
6          if(/^[^A-Z]/.test(input)) {
7              throw new Error('Something is wrong.');
```

- 4) Compile your TypeScript code. Notice that you *can* compile it without an error.

```
>>> tsc test_string.ts
```

- 5) Run the JavaScript file. **You will get a similar error message. Ignore the direction.**

```
>>> node test_string.js
```

```

The string contains "AB".
/Users/Kevin/OneDrive - City University of Seattle/Job/Apprenti-Amazon/CS142/Module6/test_string.js:5
    throw new Error('Something is wrong.');
```

Error: Something is wrong.

```

    at testString (/Users/Kevin/OneDrive - City University of Seattle/Job/Apprenti-Amazon/CS142/Module6/test_string.js:5:19)
    at /Users/Kevin/OneDrive - City University of Seattle/Job/Apprenti-Amazon/CS142/Module6/test_string.js:14:50
    at Array.forEach (<anonymous>)
    at Object.<anonymous> (/Users/Kevin/OneDrive - City University of Seattle/Job/Apprenti-Amazon/CS142/Module6/test_string.js:14:5)
    at Module._compile (internal/modules/cjs/loader.js:736:30)
    at Object.Module._extensions.js (internal/modules/cjs/loader.js:747:10)
    at Module.load (internal/modules/cjs/loader.js:628:32)
    at tryModuleLoad (internal/modules/cjs/loader.js:568:12)
    at Function.Module._load (internal/modules/cjs/loader.js:560:3)
    at Function.Module.runMain (internal/modules/cjs/loader.js:801:12)
```

- 6) Look carefully into the output you get. Especially the first 6 lines.

```

    throw new Error('Something is wrong.');
```

Error: Something is wrong.

- 7) Update the file again to match the following picture. You will add another string on the second line and update the code after line 17.

```

1  let str: string[] = [ 'AB', 'Ac', null, '', 'sT', 'r', 'V', '2'];
2  let str2: string[] = [ 'A', 'B', 'CDE', 'FG'];
3
4  function testString(input: string): string {
5
6      if(input) {
7          if(/^[A-Z]/.test(input)) {
8              throw new Error('Something is wrong.');
```

9 }

```

10         return 'The string contains "' + input + '".';
11     }
12     else {
13         // return null if the string input is nothing.
14         return null;
15     }
16 }
17
18 try {
19     str.forEach(item => console.log(testString(item)));
20 } catch (error) {
21     console.log('Something is wrong.');
```

22 }

```

23
24 try {
25     str2.forEach(item => console.log(testString(item)));
26 } catch (error) {
27     console.log('Something is wrong.');
```

28 }

- 8) Compile your TypeScript code and run the JavaScript file.

```
>>> tsc test_string.ts & node test_string.ts
```

```
The string contains "AB".  
Something is wrong.  
The string contains "A".  
The string contains "B".  
The string contains "CDE".  
The string contains "FG".
```

### **Push your work to GitHub**

Run the following commands to push your work to the GitHub repository:

Open the terminal from the VSCode by hitting the control + ~ key and type the following command:

```
>>> git add .
```

```
>>> git commit -m "Submission for Module 6– YOUR NAME"
```

```
>>> git push origin master
```