The following exercises are related to the use of Typescript.

1. Configure your Development Environment: Install Visual Studio Code Install Node.js Install Git Source control

2. Create a git repository for your answers to this problem sheet. Push the repository to GitHub. Make a commit and push it to GitHub after each exercise.

3. Copy the following code and compile it using tsc

```
function addition(value: string) {
    console.log("Value is: " + value);
}

let firstVal: number = 42;
let secondVal: number = 1;
let sumOfVals: string = (firstVal + secondVal).toLocaleString();

addition(sumOfVals);
```

   Run the resulting JavaScript file using node.

4. Create a typescript file which demonstrates the use of types. Basic types are described on the following web page:

   `http://www.typescriptlang.org/docs/handbook/basic-types.html`

   For each type described on this page, implement an example. You can do this by defining a set of variables, use let instead of var for declaration, and set the type for each of these variables. For each of the variables declared, assign a value to it, and output to the screen.

```
1  //boolean
2  let flag: boolean = true;
3  console.log("Value assigned to flag is: "+flag);
```

5. For this exercise, refer to the following web page:

   `http://www.typescriptlang.org/docs/handbook/functions.html`

   For this exercise, you are required to implement parameter types and return types for a function. Complete the following 3 exercises to demonstrate knowledge of this:

   (a) Create a function which accepts a string parameter, and returns a count of the number of characters in that string. For example, if the string provided as an input is “test 1” then the count returned is 6.

   (b) Create a function which accepts a string parameter, and returns a count of the number of characters in that string, excluding spaces. For example, if the string provided as an input is “test 1” then the count returned is 5.

(c) Combine both function created in 1 and 2, into one function which accepts an optional parameter, so character count on input string can include or exclude spaces.