1. Write a TypeScript program that declares a variable as a number and then tries to assign a string to it to see type checking in action.

```
let myNumber: number;
myNumber = "Hello, TypeScript!";
console.log(myNumber);
```

2. Write a TypeScript program that declares a variable without specifying its type and shows how TypeScript infers the type based on the assigned value.

```
let myVariable = 42;
console.log(typeof myVariable);  // Output: number
myVariable = 3.14;  // TypeScript allows assigning a number of a different subtype (float)
console.log(typeof myVariable);  // Output: number
// Uncommenting the line below would cause a TypeScript error:
// myVariable = "Hello, TypeScript!";  // Type '"Hello, TypeScript!"' is not assignable to type 'number'.
console.log(myVariable);  // Output: 3.14
```

3. Write a TypeScript program that converts a variable of one type to another using type assertions and type conversion functions like parseInt().

```
let myString: any = "123";  // Assume myString is initially of type 'any'

// Type assertion to convert myString to type 'number'
let myNumber1 = myString as number;  // Method 1: Using 'as' syntax
let myNumber2 = <number>myString;    // Method 2: Using angle bracket syntax

console.log(typeof myNumber1);  // Output: number
console.log(typeof myNumber2);  // Output: number
```