

TypeScript Variables and Data Types

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// Variables
// How to declare a Variable
// There are 4 ways to declare variables
// 1. both type and initial value
var empName : string = 'John';
console.log(empName);
// 2. only type
var empName : string ;
// 3. only the initial value
var empName = 'John';
// 4. without the type and the initial value
var name1;
name1 = 'Robert';
console.log(name1);

// How to assign value to a variable with
// assignment operator '='
var empName1 :string = 'John';    // Declaration
var message = 'Hello World';
// differences between var vs let
// var
// #1 difference
var aa : number;
```

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// #2 difference
var a: string = 'Hello';                                     //
initialised
console.log('value of a :',a);
a = 'Hello World';                                           //
updated
console.log('updated value of a :', a);
var a = 'Welcome to Typescript';                             //
re-declared
console.log('redeclared value of a :', a);
// #3 difference
function example1(){
    if(true){
        var x = 100;
        console.log(x);    // block scoped
    }
    console.log(x);        // function scoped
}
// let
// #1 difference
var bb : number;
// #2 difference
let b : string = 'Hello';
// initialised
console.log('value of b :', b);

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b = 'Hello World';
// error : cannot be updated
console.log('updated value of b :', b);
//let b = 'Welcome to typescript';
// error : cannot be redeclared
console.log('redeclared value of b :',b);
// #3 difference
function example2(){
    if(true){
        let x = 100;
        console.log(x);    // only block scoped
    }
    // uncomment below to demonstrate error
    // console.log(x);    // error : not
function scoped
}
// const
// #1 difference
//const cc : number;    // Error
// #2 difference
//const c : number = 2.742;
//console.log('constant value :', c);
//c = 1000;    // error : cannot update
the value as it is a constant

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const c = 200;           // error :cannot re-declare
the constant
// #3 difference
function example3(){
    if(true){
        const x = 100;
        console.log(x);    // only block scoped
    }
    // console.log(x);      // error : not function
scoped
}
// Data Types
console.log("Data Types")
// 'number' Data Type
let firstNumber : number = 12.0;
let secondNumber : number = 0X37CF;
let thirdNumber : number = 0o377;
let fourthNumber : number = 0b111000;
console.log(firstNumber);
console.log(secondNumber);
console.log(thirdNumber);
console.log(fourthNumber);
// 'string' Data Type
var empName11 : string = "John";
var empName12 : string = 'XXXX';

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```
console.log(empName11);
console.log(empName12);
// 'boolean' Data Type
var isPresent : boolean = true;
console.log(isPresent);
// 'undefined'

var x = undefined;    // 'undefined' as value
console.log(x);
console.log(typeof(x));
x = "hello";
console.log(x);
console.log(x);

var x1 : undefined;    // 'undefined' as datatype
//x1 = "hello" ;      // Error :

// 'null'

var x2 = null;    // 'null' as value
console.log(x2);
console.log(typeof(x2));
x2 = "hello";
console.log(x2);
```

```
console.log(x2);
```

```
var x22 : undefined;      // 'null' as datatype  
//x22 = "hello" ;        // Error :  
// never
```

```
//var str1 : never = 'null';  // Error
```

```
// 'any'
```

```
var value : any;  
console.log(typeof(value));  
value = "Hello";  
console.log(value);  
console.log(typeof(value));  
value = 100;  
console.log(value);  
console.log(typeof(value));
```