TYPESCRIPT

1. open source, object oriented programming which is developed and maintained by Microsoft and introduced by Anders Hejisberg

2. var a=10;//number

var a="hello"; //string

Javascript dosent support any datatype

Typescript is a strongly typed superset of Javascript

3. Typescript does not directly run in the browser, it needs compiler to compile typescript and internally converted to Javascript

4. TSC - Typescript compiler which compile typescript to javascript

5. Typescript is ES6 version of Javascript

6. Typescript 3.7 is latest version

7. .ts is extension of typescript

**Software**

1. nodejs - provides all npm(node package manager)- all packages required to develop angular appl

2. Visual studio code editor - IDE for angular

>node --version

>npm --version

>npm install -g typescript

>tsc first.ts

>node first.js

**Typescript datatypes**

1. Static type

1. Built-in type

Number, string,boolean,void,null,undefined,any

undefined data type denotes uninitialized variable whereas null represent a variable whose value is undefined

any - super type of all data type in typescript

2. User defined datatype

array,tuple,interface,class,enums,function

1.Array - collection of similar data types

2 ways

1. let list:number[]=[1,2,3,4];

let list1: string[] = ["one","two"];

2. Generic Array type

let list: Array<number> = [1,3,4];

let list1: Array<string> = ["one","two"];

2. Tuple - collection of different data types

3. Interface

- Interface is a structure that defines the contract in ur appl

- Typescript compiler does not convert interface into javascript, it uses interface only for type checking

- using "interface" keyword

- optional property - indicate the property is optional using ?

- readonly property - that property can’t be changed using readonly

- interface can be also extended

- interface can also extend class

4. class

- class contains methods, variables and constructors

- class is accessed using object, created using new operator, it will invoke constructor

- The constructor name is always defined with "constructor"

- no constructor overloading, only one constructor either with argument or without argument

- we can access the class variable inside constructor or methods only using "this" keyword

- class implements interface