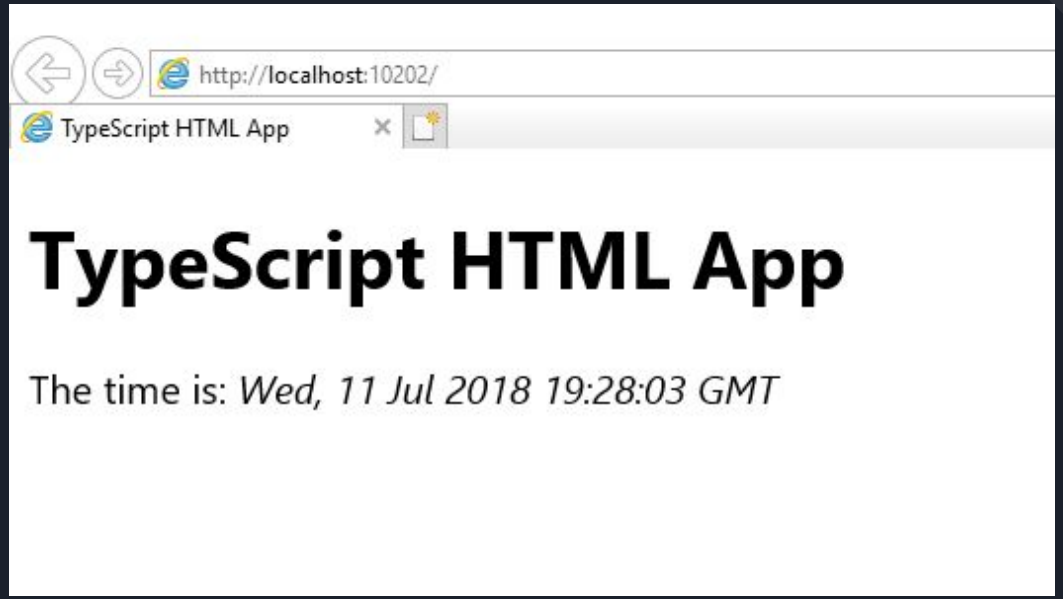
TypeScript Learning - Session 2

Presented by Umang Bhatt

Let us get started

Start with visual studio

Exercise 1 - Create html typescript app from template



Who can find “do not emit on error” for this project ?

Why is there no “JavaScript” on properties page ?

JavaScript is now formally known as ECMAScript but it is still commonly referred to as its original name.

Home work

Exercise 2 - Exception to “Every valid JavaScript file is a valid TypeScript file”

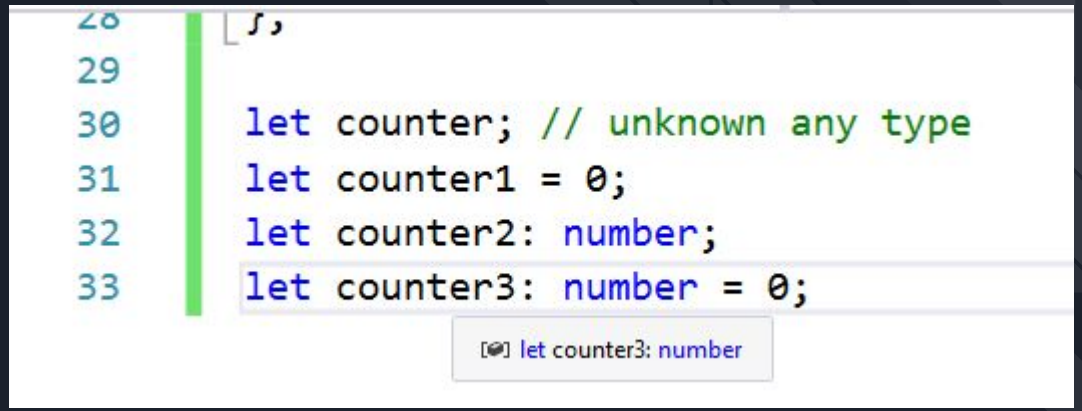
“With” and other vendor specific
Implementations like Mozilla’s const

```
C:\js_learning\2nd day\Exercise 2\TS Example>tsc a.ts
a.ts(4,1): error TS2410: The 'with' statement is not supported. All symbols in a 'with' block will have type 'any'.
```

Exercise 3

- Type inference
- Learn to mouse hover

Copy code from exercise file and paste into app.ts file in visual studio



Exercise 4
optional type inference

This is just previous exercise with same code, different understanding

Basic types

Exercise 5 - boolean

Copy code from file to visual studio

Exercise 6 - nullable boolean

Copy code from file to visual studio

Exercise 7 - number Float

Copy paste the code from file to visual studio.

All numbers in EcmaScript are floats. Here is a link.

Fix the compile time error.

Exercise 8
Special case in JavaScript - division by 0

Copy code from exercise folder to visual studio.

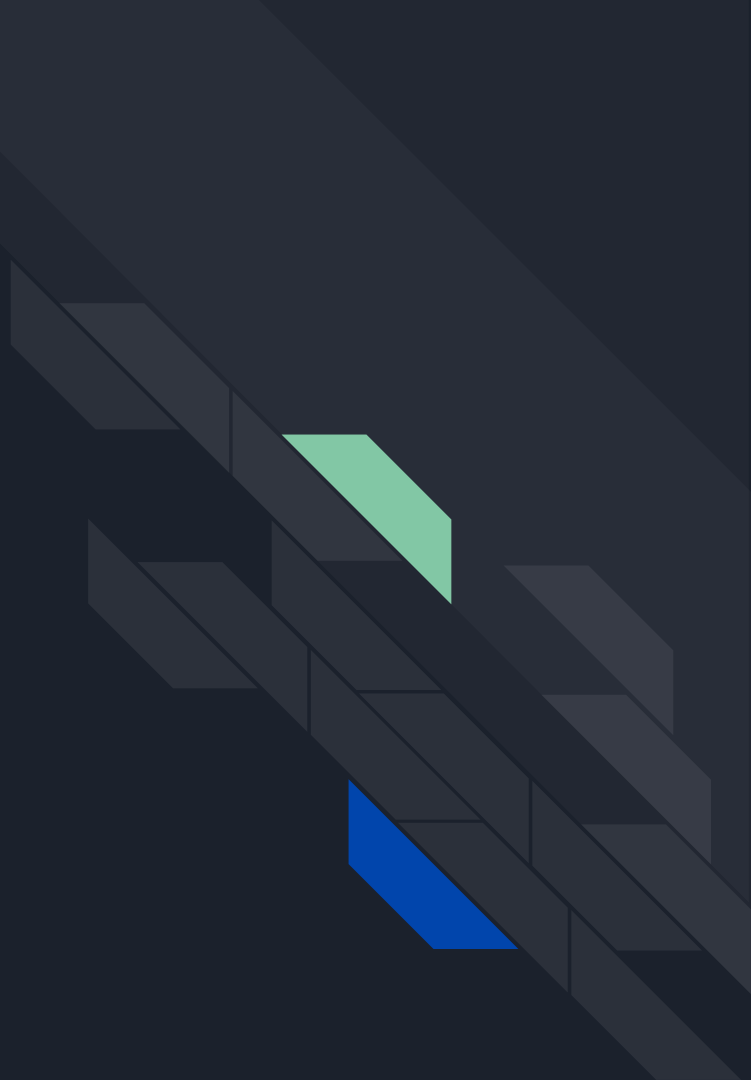
Home work

Do following :

- Create a program checking if a variable is NaN.
- A program to check if a variable is positive infinity.
- A program to check if a variable is negative infinity.
- A program to check if a negative zero and positive zero are present and if a comparison can be made.

First person to share programs over email will be rewarded in next session in presence of everyone.

Strings



Exercise 9 - Strings - single quote - double quote

Copy code from exercise folder to visual studio.

Home work

Exercise 10 - no distinction between single and double quote

Make comparison using == for two similar string declared using

single quote and double quote

Home work

Exercise 11 - long strings

Copy code from exercise folder to visual studio.

Home work

Exercise 12 - string character access

Mouse hover on piece variable in debugging and see variable type of it.

Home work
Exercise 13 - strcomp

Strings can be compared using > and <

Copy code from exercise folder to visual studio.

Exercise 14 - arrays

Two ways to declare arrays. Copy code from exercise folder to visual studio.

Home work
Exercise 15 - arrays

Look various examples of methods on array at
https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array

Exercise 16 - tuples

Copy code from exercise folder to visual studio.

Exercise 17 - Enums

Copy code from exercise folder to visual studio.
Remember that there is no enum in javascript.
Let us look at the code in source.

First one to figure out how to see corresponding js file from visual studio gets reward.

Exercise 18 - any

All types in TypeScript are subtypes of a single top type called the any type.

The any type can be useful while migrating existing JavaScript code to TypeScript

The any type eliminates most of the TypeScript type checks and represents all the possible types

Exercise 19 - null and undefined

In TypeScript, both undefined and null are types. By default, null and undefined are subtypes of all other types. That means you can assign null and undefined to something like a number.

When you declare a variable by having a var a statement in a block, but haven't yet assigned a value to it, it is undefined

Exercise 20 - void

In TypeScript, both undefined and null are types. By default, null and undefined are subtypes of all other types. That means you can assign null and undefined to something like a number.

When you declare a variable by having a var a statement in a block, but haven't yet assigned a value to it, it is undefined

Exercise 21 - var, let and const

Variables declared with var are scoped to the nearest function block (or global, if outside a function block).

Variables declared with let are scoped to the nearest enclosing block (or global, if outside any block), which can be smaller than a function block.

The const keyword creates a constant that can be global or local to the block in which it is declared. This means that constants are block-scoped.

discussion?

Thank you.