

# React Fundamentals

# JavaScript Review



## Let's talk about...

- Types
- Variables
- Functions
- Objects
- Classes
- Events
  
- TypeScript



# JavaScript Review

## Types



## Primitive Types

**String**

**Number**

**Boolean**

**Null**

**Undefined**

**BigInt**

**Symbol**



# JavaScript Review

## Variables



## Variables

const

let

var

```
const string = 'apple'
```

```
let number = 4
```

```
let bool = false
```

# Variables

|                      | <b>const</b> | <b>let</b> | <b>var</b> |
|----------------------|--------------|------------|------------|
| <b>Re-assignable</b> | no           | yes        | yes        |
| <b>Re-declarable</b> | no           | no         | yes        |



# JavaScript Review

# Functions



# Functions

- Reusable blocks of code
- Can accept a list of arguments
- Invoked by calling function name with parenthesis ()

```
function sayHello(name) {  
  return `Hello, ${name}`  
}  
  
console.log(sayHello())
```



# JavaScript Review

## Objects

## Objects

- Containers for collections of properties
- Properties can be of any type
- Can access properties via "Dot" or "Bracket" notation

```
const car = {  
  make: 'Honda',  
  model: 'Civic',  
  yearBuilt: 2017,  
  spinningRims: false,  
  selfDriving: false  
}  
  
// Dot Notation  
console.log(car.model)  
  
// Bracket Notation  
console.log(car['selfDriving'])
```



# JavaScript Review

## Classes

# Classes

- Classes were introduced to JavaScript as a part of ES6
- Constructor automatically called when a new object is initialized
- Intended to be familiar to developers with object-oriented experience.

```
class Person {  
  constructor(firstName, lastName, age) {  
    this.firstName = firstName  
    this.lastName = lastName  
    this.age = age  
  }  
  
  greetings() {  
    return `Hello! My name is ${this.firstName}`  
  }  
}
```



# JavaScript Review

## Events

## Events

- Events drive interaction between JS code and an HTML page
- There are a lot of types of events but common ones are:
  - onclick
  - onchange
  - onload
  - onkeydown

### HTML

```
<div>
  <button onclick="handleButtonClick()">
    Click me!
  </button>
</div>
```

### JS

```
function handleButtonClick() {
  alert('button clicked!')
}
```



# JavaScript Review

# TypeScript



# TypeScript

- A superset of JavaScript, created by Microsoft
- Adds syntax for specifying types function parameters and variables
- TypeScript code is “transpiled” back to JavaScript before it runs

```
const car: { make: string, model: string,  
yearBuilt: number, selfDriving: boolean } =  
{  
  make: 'Honda',  
  model: 'Civic',  
  yearBuilt: 2017,  
  selfDriving: false  
};  
  
car.yearBuilt = '2022' // error!
```



# Let's try it!

