Web Engineering & Development (SWE 363)

# 4.1 JavaScript Fundamentals

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# In today's lecture:

- JS Variables
- JS Functions
- JS Objects
- JS Arrays
- JS DOM
- JS Events

**Reference:**

- Zybook: 4.1 to 4.7

# Announcements 📣

- Project Assignment #1 is due This Thursday at 11:59 PM

Examples:

# 🟦 JavaScript Basics – Simple Examples

```
<!-- 1. Variables -->

let name = "Ali";          // string
let age = 20;              // number
let isStudent = true;      // boolean
console.log(name, age, isStudent);
```

```
<!-- 2. Functions ---------------------------------->

function greet(name) {
  return "Hello, " + name + "!";
}
console.log(greet("Ali"));
```

```
<!-- 3. Objects ------------------------------------>
let student = {
  name: "Ali",
  age: 20,
  isStudent: true
};
console.log(student.name); // outputs "Ali"
```

```
<!-- 4. Arrays ------------------------------------>
let fruits = ["Apple", "Banana", "Mango"];
console.log(fruits[0]);     // "Apple"
console.log(fruits.length); // 3
```

```
<!-- 5. DOM ------------------------------------>
<!DOCTYPE html>
<html>
<body>
<p id="demo">Hello</p>
<script>
document.getElementById("demo").innerHTML = "Hello, JavaScript!";
</script>
</body>
</html>
```

```
<!-- 6. Events ---------------------------------->
<!DOCTYPE html>
<html>
<body>
<button onclick="showMessage()">Click Me</button>
<p id="output"></p>
<script>
function showMessage() {
  document.getElementById("output").innerHTML = "Button was clicked!";}
</script>
```

## functions in JavaScript:

```
function Greeting(){
    console.log("Helllo");
    alert("Alert me")
}
Greeting();
```

```
const greet=function(){
    alert("Alert me")
}
greet();
```

```
 const greet=()=>{
    alert("Alert me");
}
greet();
```

```
 document.getElementById("btn").onclick = function() {
    alert("Alert me");
};
```

```
 class Car {
  start() {
    alert("Alert me");
  }
}
const myCar = new Car();
myCar.start(); // Trigger method
```

```
  function sayHi() {
        alert("Alert me");  }
```

```
 (function(){
        alert("Alert me");
})();
```

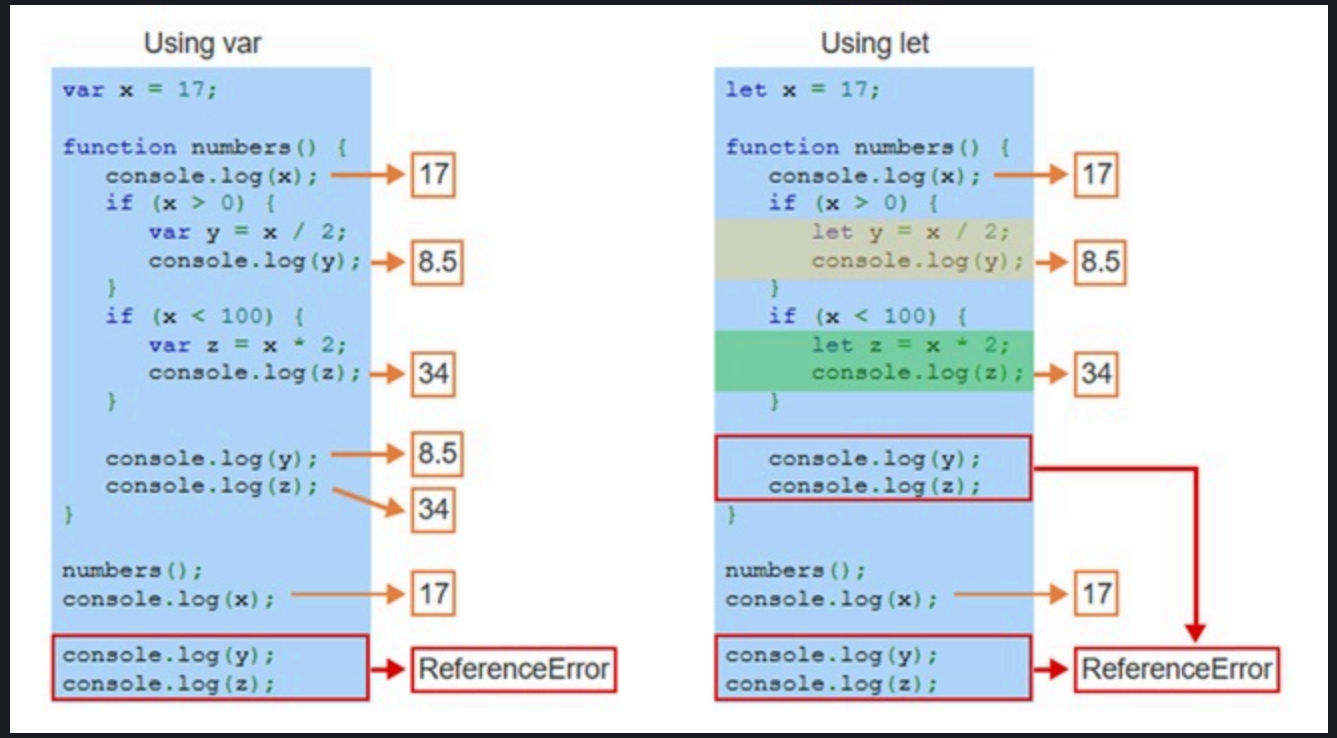
```
function Person(name) {
  this.name = name;
  this.sayHello = function() {
        alert("Alert me");
  };
}

const p1 = new Person("Hasan");
p1.sayHello(); // Triggered on object
```

```
 document.getElementById("btn").addEventListener("click",()=>{
        alert("Alert me");

});
```

# Let and Var keywords


Using var
var x = 17;
function numbers() {
console.log(x);
17
if (x > 0) {
var y = x / 2;
console.log(y);
8.5
}
if (x < 100) {
var z = x * 2;
console.log(z);
34
}
console.log(y);
8.5
console.log(z);
34
}
numbers();
console.log(x);
17
console.log(y);
console.log(z);
ReferenceError
Using let
let x = 17;
function numbers() {
console.log(x);
17
if (x > 0) {
let y = x / 2;
console.log(y);
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}
if (x < 100) {
let z = x * 2;
console.log(z);
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console.log(y);
console.log(z);
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numbers();
console.log(x);
17
console.log(y);
console.log(z);
ReferenceError

45m

# Demo

Starter code at: web-engineering-kfupm-classroom-4-1-js-fundamentals/

# Next Class

- Js Part 2