```
<!DOCTYPE html>
<html lang="en">
   <head>
      <meta charset="UTF-8">
      <title>Section 3: How JavaScript Works Behind the Scenes</title>
   </head>

   <body>
      <h1>Section 3: How JavaScript Works Behind the Scenes</h1>
      <script src="script.js"></script>
   </body>
</html>
```

// functions:

```
calculateAge(1965);

function calculateAge(year) {
   console.log(2016 - year);
}

// retirement(1956);
var retirement = function(year) {
   console.log(65 - (2016 - year));
}
```

// variables

```
console.log(age);
var age = 23;

function foo() {
   console.log(age);
   var age = 65;
   console.log(age);
}
foo();
console.log(age);
```

// Lecture: Scoping

```
// First scoping example
var a = 'Hello!';
first();

function first() {
    var b = 'Hi!';
    second();

    function second() {
        var c = 'Hey!';
        console.log(a + b + c);
    }
}


// Example to show the differece between execution stack and scope chain
var a = 'Hello!';
first();

function first() {
    var b = 'Hi!';
    second();

    function second() {
        var c = 'Hey!';
        third()
    }
}

function third() {
    var d = 'John';
    //console.log(c);
    console.log(a+d);
}
```

// Lecture: The this keyword

```
//console.log(this);
calculateAge(1985);
function calculateAge(year) {
```

```
    console.log(2016 - year);
    console.log(this);
}

var john = {
    name: 'John',
    yearOfBirth: 1990,
    calculateAge: function() {
        console.log(this);
        console.log(2016 - this.yearOfBirth);

        function innerFunction() {
            console.log(this);
        }
        innerFunction();
    }
}

john.calculateAge();

var mike = {
    name: 'Mike',
    yearOfBirth: 1984
};


mike.calculateAge = john.calculateAge;
mike.calculateAge();
```