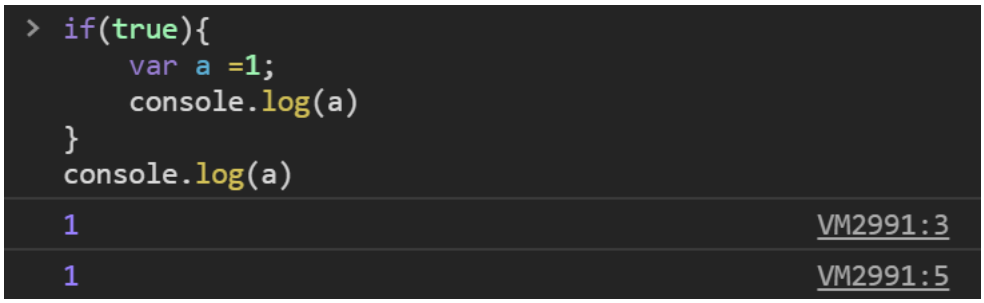
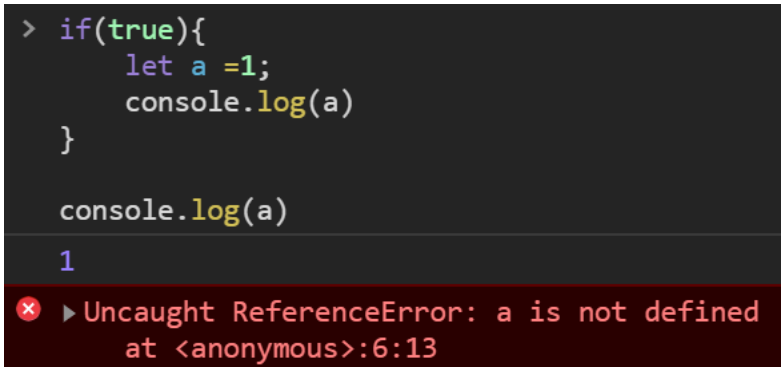
EXTRA EXAMPLES DISCUSSED:

Var/let/const






```
var x = 10;
// Here x is 10
{
  let x = 2;
  // Here x is 2
}
// Here x is 10
```

```
let myFunction = function () {
  var a= 10;
  while(true){
      let a = 20
      console.log(a); // 20
      break;
  }
  console.log(a) //10
}
```

Template Strings

```
> let name = "Dave";
  let age = 23;

  let msg = "Hello guys! I am " + name + " and I am " + age;

  let msg2 = `Hello guys! I am ${name} and I am ${age} `
  console.log(msg);
  console.log(msg2);
  Hello guys! I am Dave and I am 23                    VM8296:7
  Hello guys! I am Dave and I am 23                    VM8296:8
```

Arrow Functions

```
> let sum1 = function (a,b) {
      return a+b;
  }

  let sum2 = (a,b) => {
      return a+b;
  }

  let sum3 = (a,b) => a+b;
```

Destructuring

```
var num = {x: 100, y: 200, z: 300};
var {y, z} = num; // Destructuring object

console.log(y); // 200
console.log(z); // 300
```

```
var num = {x: 100, y: 200, z: 300};
var {y:foo, z:bar} = num; // Destructuring object

console.log(foo); // 200
```

```
console.log(bar); // 300

var myArray = ["Hello", "World" , “ Test”]

var [first, second] = myArray;  // Destructuring array

console.log(first); // Hello
console.log(second); // World
```

Rest Parameter:

```
function sum(...args) {
  let sum = 0;
  for (let i of args) {
     sum += i;
  }
  console.log ("Sum = "+sum);
}

sum(1 , 2, 3 ,4 ,5);
```

```
function sum(first , second , ...args) {
  let sum = 0;
  sum = sum + first + second;
  for (let i of args) {
     sum += i;
  }
  console.log ("Sum = "+sum);
}

sum(1 , 2, 3 ,4 ,5);
```

Spread Operator:

```
let colors1 = [“Yellow” , “ Green” , “Brown”];
let colors2 = [“Red” , …colors1  , “Violet” , “Black”]
let colors3 = [..colors1]   //separate copy of color 1
```

```
let colors1 = ["Yellow" , "Green" , "Brown"];
let colors2 = colors1;
colors2[1]="Pink";
console.log(colors2);
console.log(colors1);
```

```
let person1 = {name: "Dave" , age:23 , isStudent:true};
let person2 = {...person1 , isMarried:false};
let person3 = {...person1};
```

this keyword / Classes:

```
var person = {
  name: "John",
  age : 23,
  printName : function() {
    return this.name + " " + this.age;
  }
};
```

Class (prototype way):

```
function Person(firstName, lastName) {
    this.firstName = firstName;
    this.lastName = lastName;
};

Person.prototype.getFullName = function () {
    return this.FirstName + " " + this.LastName;
}
```

Reference: https://www.w3schools.com/js/js_object_prototypes.asp

Class keyword way

```
class Person {
        constructor(firstName, lastName){
                this.firstName = firstName;
                this.lastName = lastName;
        }

        getFullName = function () {
                return this.firstName + " " + this.lastName;
        }

}

var person1 = new Person("John", "Doe");
var person2 = new Person("Dave", "Smith");

class Student extends Person{
        constructor(firstName, lastName , college){
                super(firstName, lastName);
                this.college = college;
        }

        getIntro = function () {
                return this.getFullName() + " from " + this.college;
        }

}

Var student1 = new Student("Rahul", "Sharma", “XYZ”);
```

Reference:

forEach , Map, filter , reduce:

map

```
const numbers = [1, 2, 3, 4];
const doubled = numbers.map(item => item * 2);
console.log(doubled);  // [2, 4, 6, 8]
```

filter

```
const numbers = [1, 2, 3, 4];
const evens = numbers.filter(item => item % 2 === 0);
console.log(evens);  // [2, 4]
```

reduce

```
const numbers = [1, 2, 3, 4];
const sum = numbers.reduce(function (result, item) {
  return result + item;
}, 0);
console.log(sum);  // 10
```

```
var pets = ['dog', 'chicken', 'cat', 'dog', 'chicken', 'chicken', 'rabbit'];

var petCounts = pets.reduce(function(obj, pet){
    if (!obj[pet]) {
        obj[pet] = 1;
    } else {
        obj[pet]++;
    }
    return obj;
}, {});

console.log(petCounts);
```

Reference:
https://www.freecodecamp.org/news/javascript-map-reduce-and-filter-explained-with-examples/