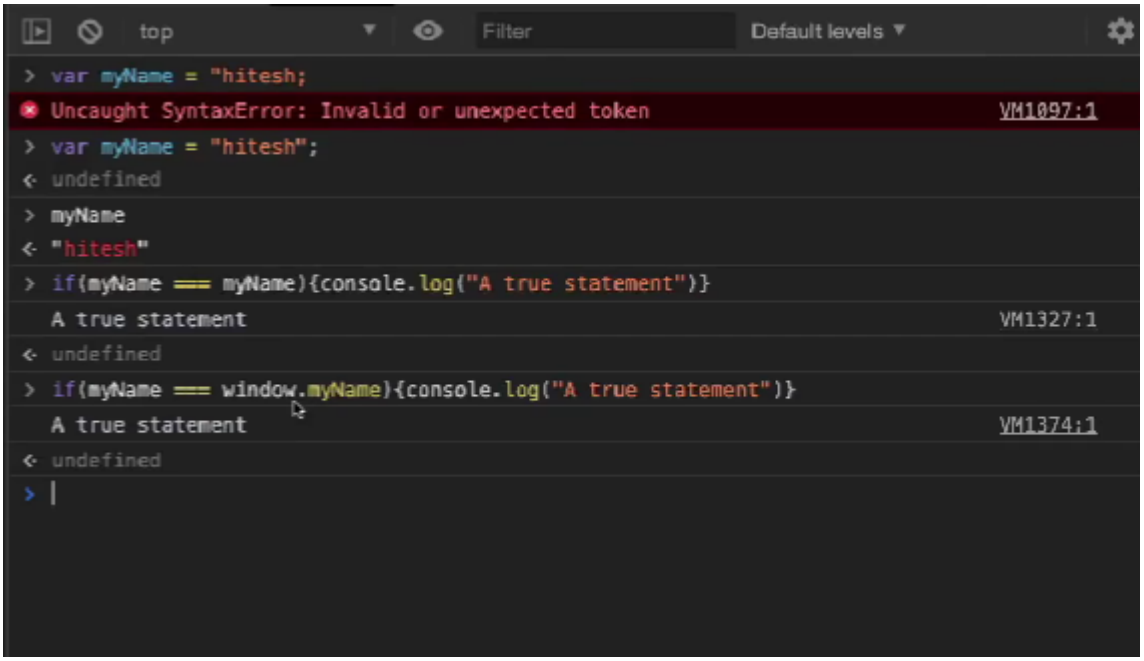
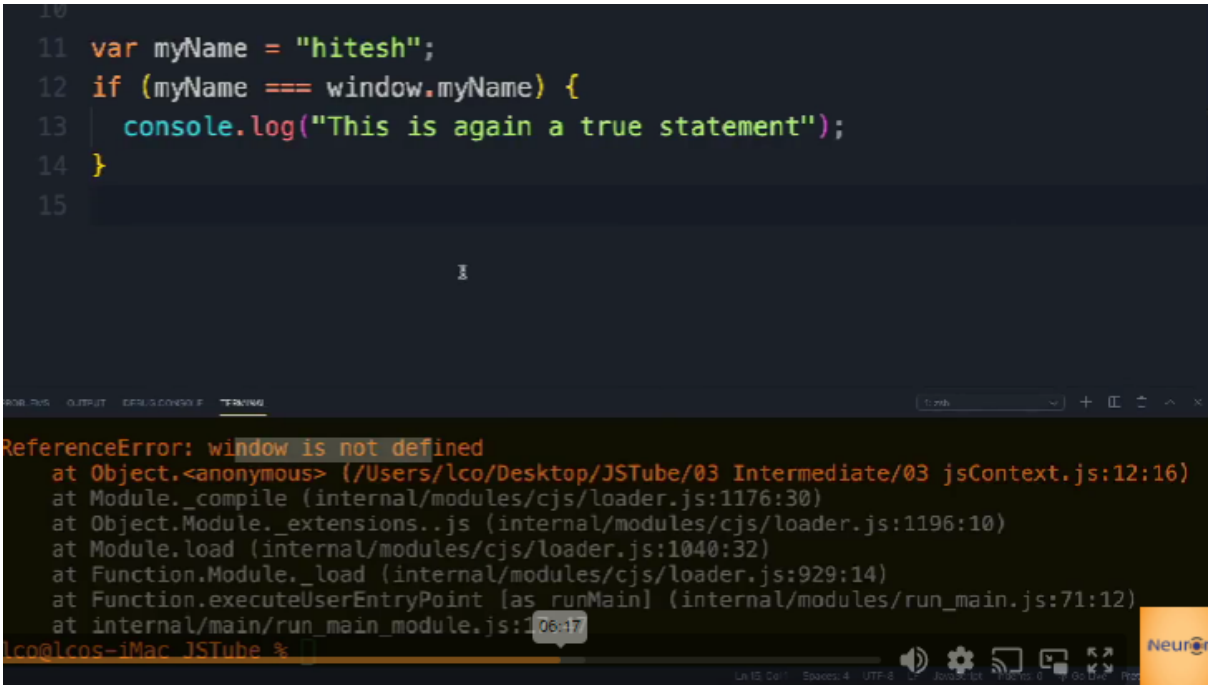
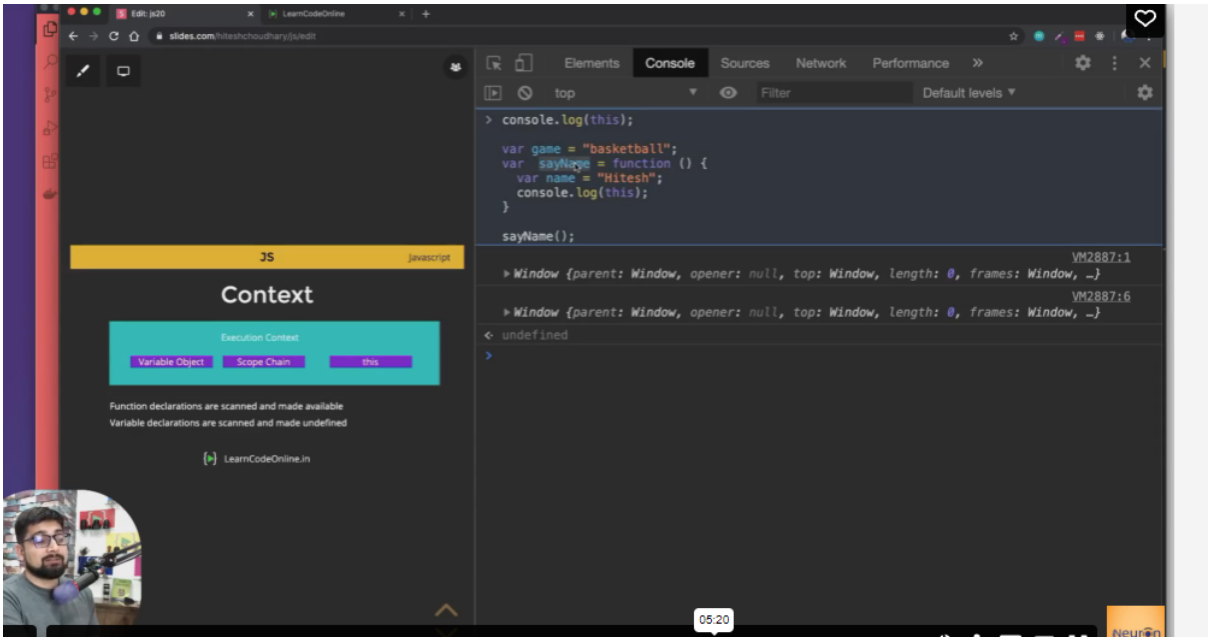
TOPICS
console.log();
HelloWorld
WHAT IS JS?
WHY JS?
Var let and const
Operators in js
JS Engine
Node JS - browser
HTML - CSS - JS
ES and ECMAscript
Interpolation
TYPE and operator precedence
typeof keyword
function
Control Flow(conditionals and loops)
Coercion and falsy values
Context
Code hoisting
This keyword

CONTEXT






Inside node and browser both are different




JavaScript

=It's a programming and scripting language

JavaScript is a programming language that is commonly used for creating interactive and dynamic content on websites. It is a versatile language that runs on the client side, meaning it is executed by the user's web browser rather than on the server. JavaScript is an essential component of web development and is often used to enhance the user experience by

enabling features such as form validation, animations, and real-time updates without the need to reload the entire page.

JavaScript has become a crucial part of full-stack development, as it can be used on both the client and server sides. On the server side, JavaScript is commonly implemented through platforms like Node.js. It supports object-oriented, imperative, and functional programming paradigms, making it a versatile language for a wide range of applications.

after js : ReactJS , AngularJS, VueJS, nodeJS

JS ENGINE
js standards are based on ES(ecma script)
Js Engine
hello.js -> (JS Engine:
javascript high level code is converted to machine executable using v8 engine,spider monkey, nodeJS used for standalone application of js.)

To run
node index.js

dir:JSTube
01 Hello dir
index.html
emmet is directly supported by vs code which gives basic template

at the end of body tag above <script src="./script.js></script>
dev tools -> console
console.log("Hello Sid");

WHICH VERSION OF JS IS USED ?
HTML = content
CSS = styling
JS = dynamic and functionality
JavaScript can do DOM manipulations

ECMAscript
JS follows ECMA script standards.
https://webreference.com/javascript/basics/versions/
2023-ES14

VARIABLES AND DataTypes
reserving the some space in memory is done using the variables
var let and const

INTERPOLATION : ${uid}
const means can't vary next time

PRO : SignUp form validation

OPERATORS
+ - * / %

PRO : discount
discount = (Lp - Sp/Lp)*100

TYPE and OPERATOR PRECEDENCE
console.log(typeof result);
give the data type of it

"typeof" keyword
operator precedence of () is 21
mdn documentation of operator precedence

functional calls and optional chaining are used for handling the api's

function parts

CONDITIONAL LOGIN

TERNARY OPERATOR
? :

SWITCH FOR ROLE-BASED ACCESS in JS

website
accessor has different level of accesses
and privileges;

fall through

COERCION AND FALSY VALUES in JS
falsy values are
undefined
null
0
''
"" empty string
NaN

var user;//not init

BASICS OF FUNCTIONS in JS
JS supports a lot of functional programming.
=functions is a block of code written as separate.so, that it can be used as reusability of it.

FUNCTIONS IN VARIABLE USER ROLE in JS
function and arrow functions

CONTEXT

CODE HOISTING
context helps us to understand the js well.
global context and execution context

execution context
execution context
global context

inside execution context (below things are present)
variable object
scope chain
this keyword

function is called global context
function calling is called execution context

=function declarations are scanned and made available for entire
=variable declarations are scanned and made undefined

SCOPE CHAINING
scope chain in context

{
scope
}

function scope()
{}

for if and other it is not scope

scope explanation
global var
function var and another func inside the function.

LIGHT INTRO TO THIS in JS
console.log(this);

ARRAYS OBJ'S AND LOOPS + DB are most important

CALL BAK AND ARROW FUNCTION intro in array's

FILL AND FILTERS methods in array

```
var a = [2,34,4]
a.fill("h",2);

a.filter((num)=>(num!=34));
```

SLICE AND SPLICE

OBJECTS IN js

```
var users = 10;
var Users = "sid";
var USER = ["Ted","Tim","Sid","Tom"]
console.log(USER.slice(1,3));

        //start and count till remove and add
USER.splice(1,0,"Hai","BYE","JAI");
console.log(USER);
```

API's looks like the obj's

```
var user = {
   firstName : "SidduGanesh",
   lastName : "Musa",
   role : "Admin",
   loginCount : 32,
   GoogleSignedIn : true
}

// . features is just like the access the object
console.log(user.firstName)
console.log(user["lastName"]);

user.loginCount = 44;

console.log(user.loginCount);

console.table(user)

//7 obj is recommended
```

METHODS & OBJECTS in JS

FOR LOOP BASICS in JS

```
const states = [
    "Telangana",
    "Andhra Pradesh",
    1947,
    "Madhya pradesh"
]

for (let index = 0; index < states.length; index++) {
    // const element = states[index];
    // console.log(states[index]);
    if(typeof states[index]!=="string") continue;
    console.log(states[index]);
}
```

WHILE AND DO WHILE LOOPS in JS

do-while generally not much used inside web development

FOR EACH
lot of other loops
for in and for of

FOR IN and FOR OF

CONFUSING PART OF THIS in JS

```
//this
//= for all regular function calls, this points to window object
//study about __proto__

console.log(this);

var user = {
    name : "siddu ganesh",
    courseCount : 0,

    getCourseCount: function(){
        console.log("Line 7",this);
        //below code is called regular function call
function sayHello()
{
    console.log("hello");
    console.log("LINE 17",this);
}
sayHello();
    }

}
```

```
//object function calls
user.getCourseCount();

//below code is called regular function call
function sayHello()
{
    console.log("hello");
}
sayHello();
```

WHAT IS DOM
Document object model

```
 var_name = document.getElementByTagName("h1")[0].innerHTML

var techy = document.getElementsByClassName("title")[0].innerText
```

dom images

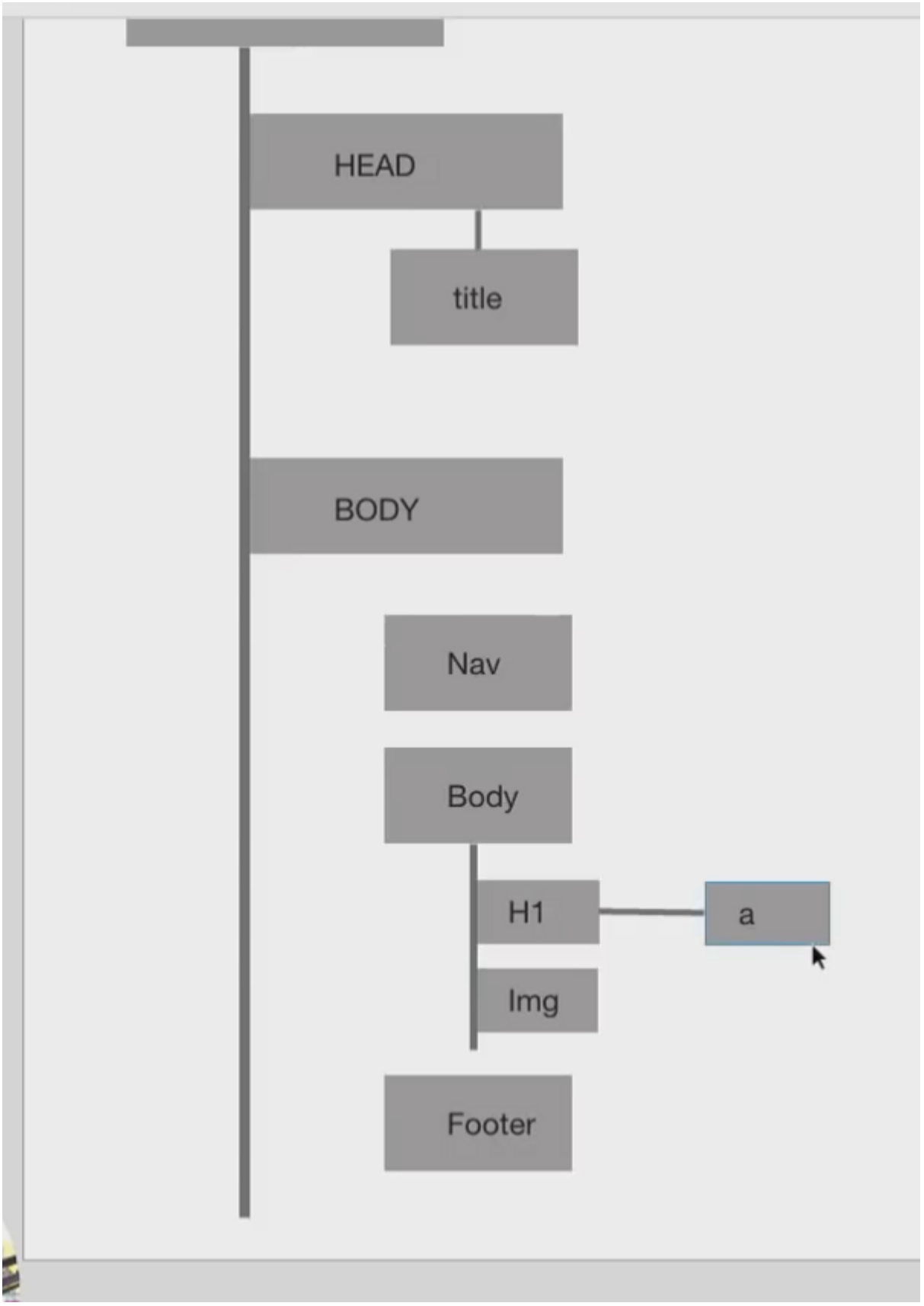
HOW TO GRAB WEB ELEMENTS in JS
=selecting elements on web page

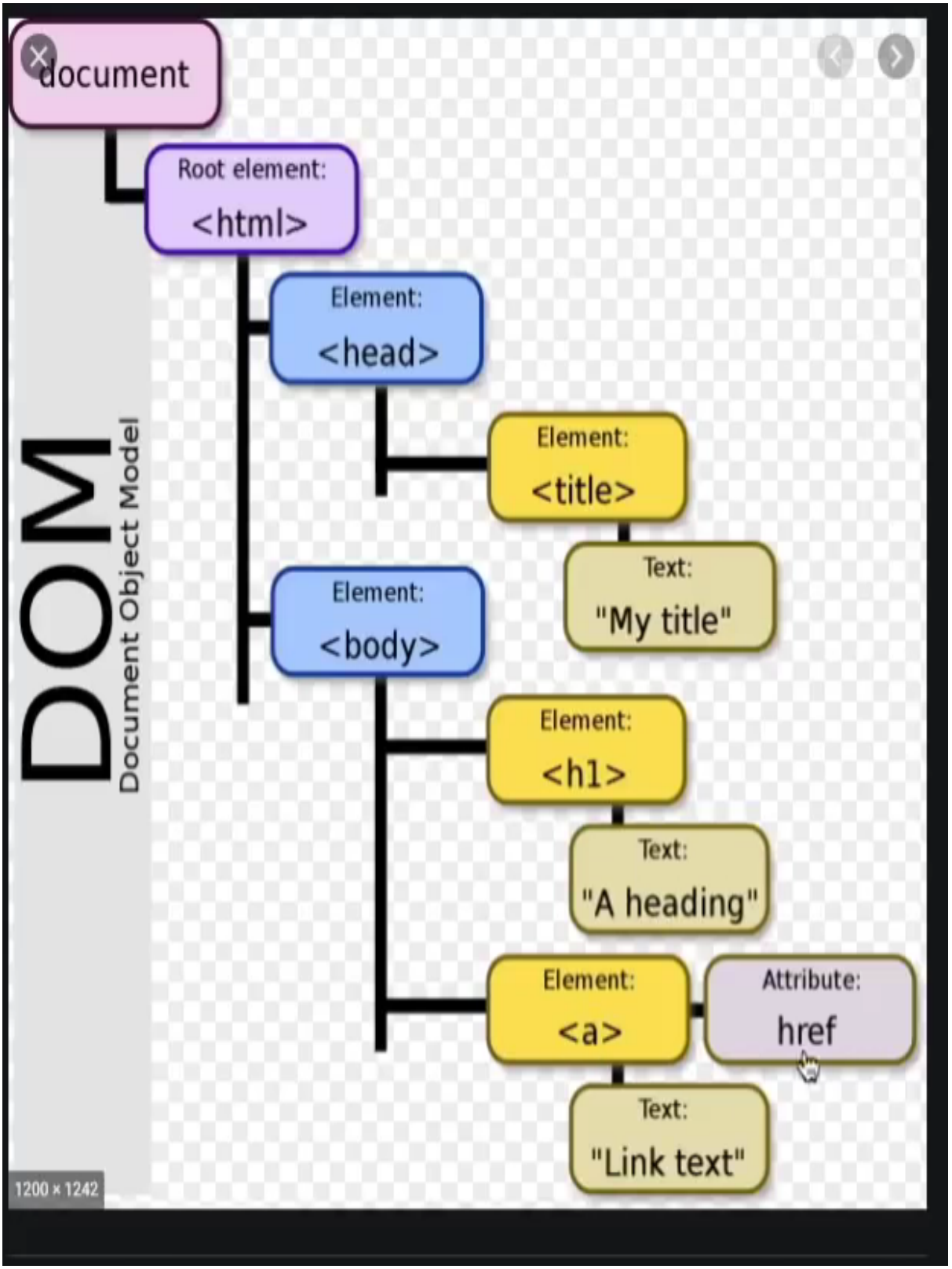
var
COUNTER PROJECT in JS

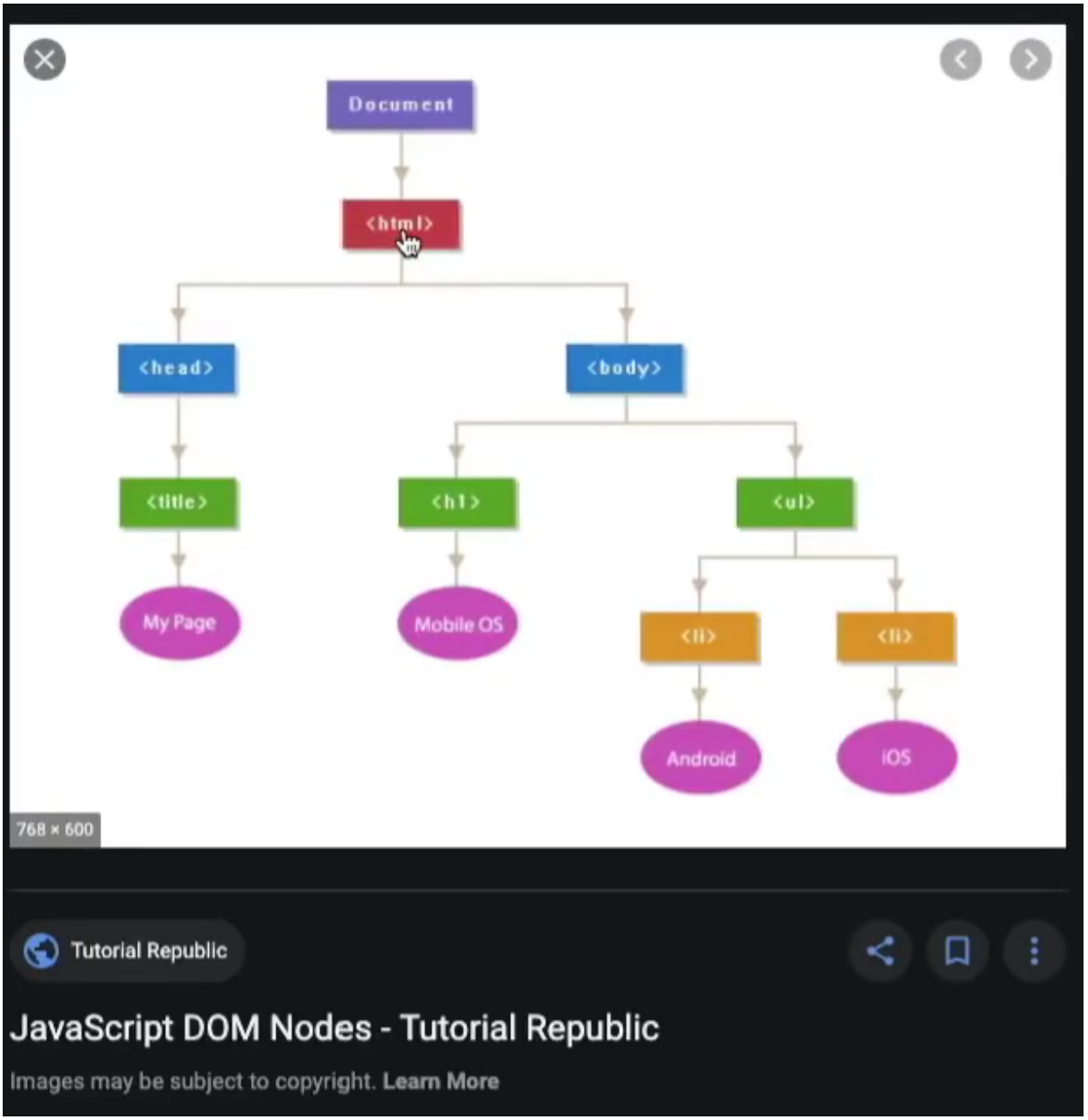
GET COMPUTED PROPERTIES

EVENT LISTENER

dom images



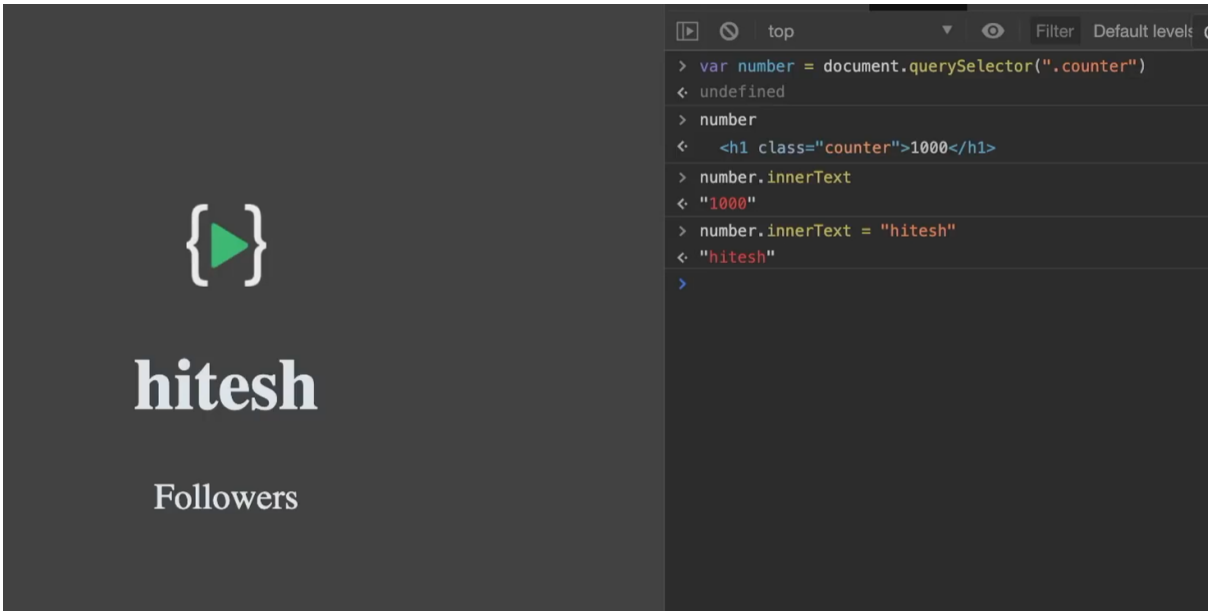

DOM
Document Object Model
document
Root element:
<html>
Element:
<head>
Element:
<title>
Text:
"My title"
Element:
<body>
Element:
<h1>
Text:
"A heading"
Element:
<a>
Attribute:
href
Text:
"Link text"
1200 x 1242




HOW TO GRAB WEB ELEMENTS in JS
=selecting elements on web page

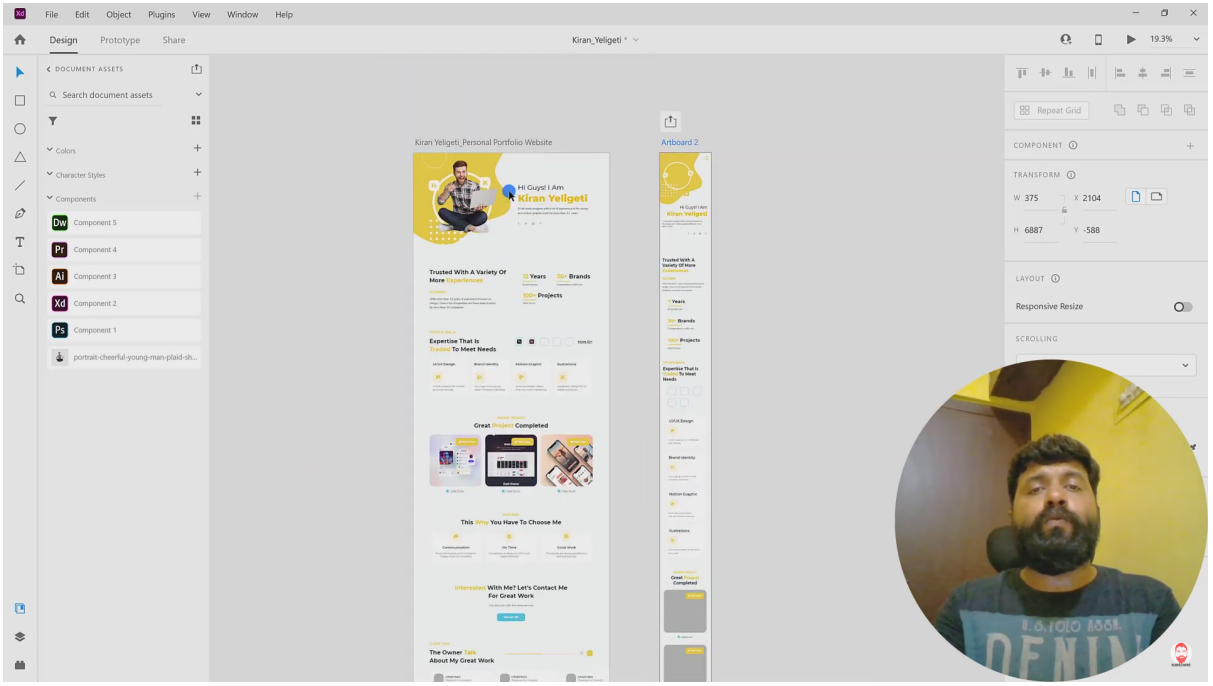
var var_name = document.getElementByTagName("h1")[0].innerHTML

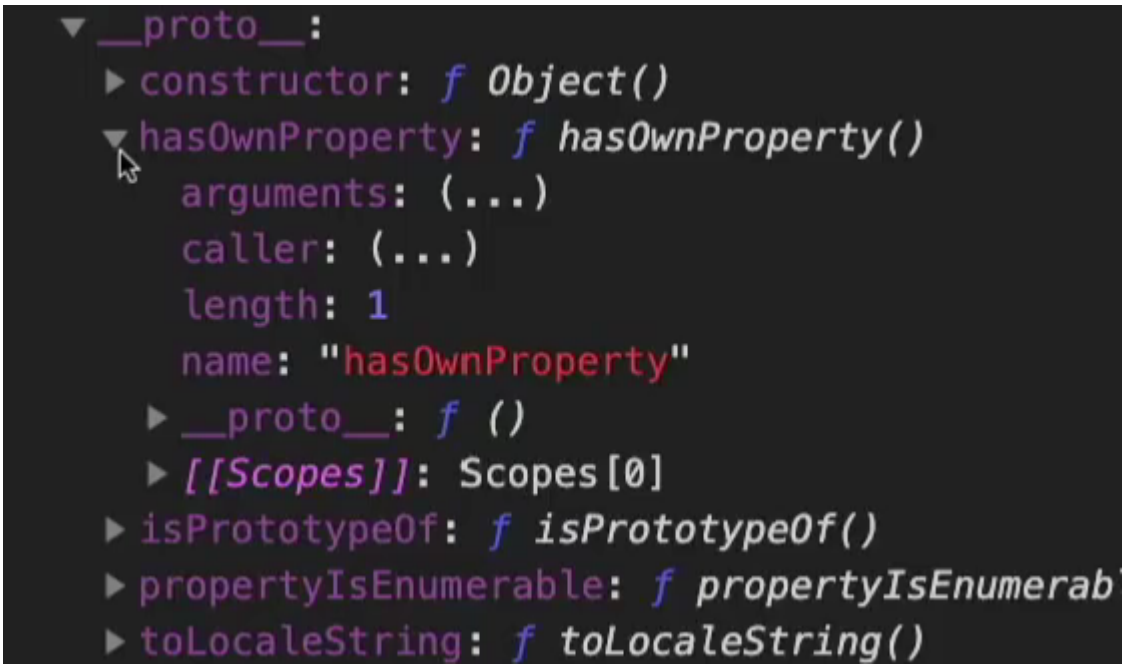
var techy = document.getElementsByClassName("title")[0].innerText





https://dailylogochallenge.com/

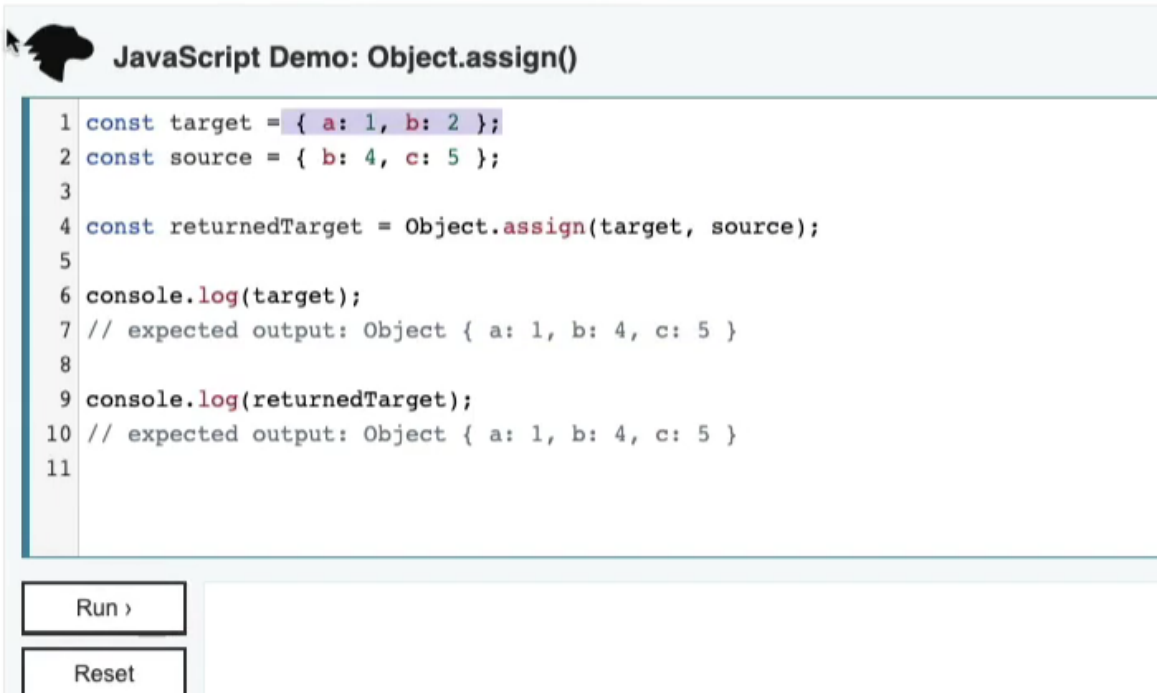



var lco = {name:”siddu”};
lco.hasOwnProperty(“name”); // to check the property


Using the above we can write the less prone error code

The `Object.assign()` method copies all enumerable own properties from one or more *source objects* to a *target object*. It returns the target object.




# Object.create()

Web technology for developers › JavaScript › JavaScript reference › Standard built-in objects › Object › Object.create() Englis

On this Page

- Syntax
- Custom and Null objects
- Polyfill
- Examples
- Specifications
- Browser compatibility
- See also

Related Topics

Standard built-in objects

Object

Properties

Object.prototype.__proto__

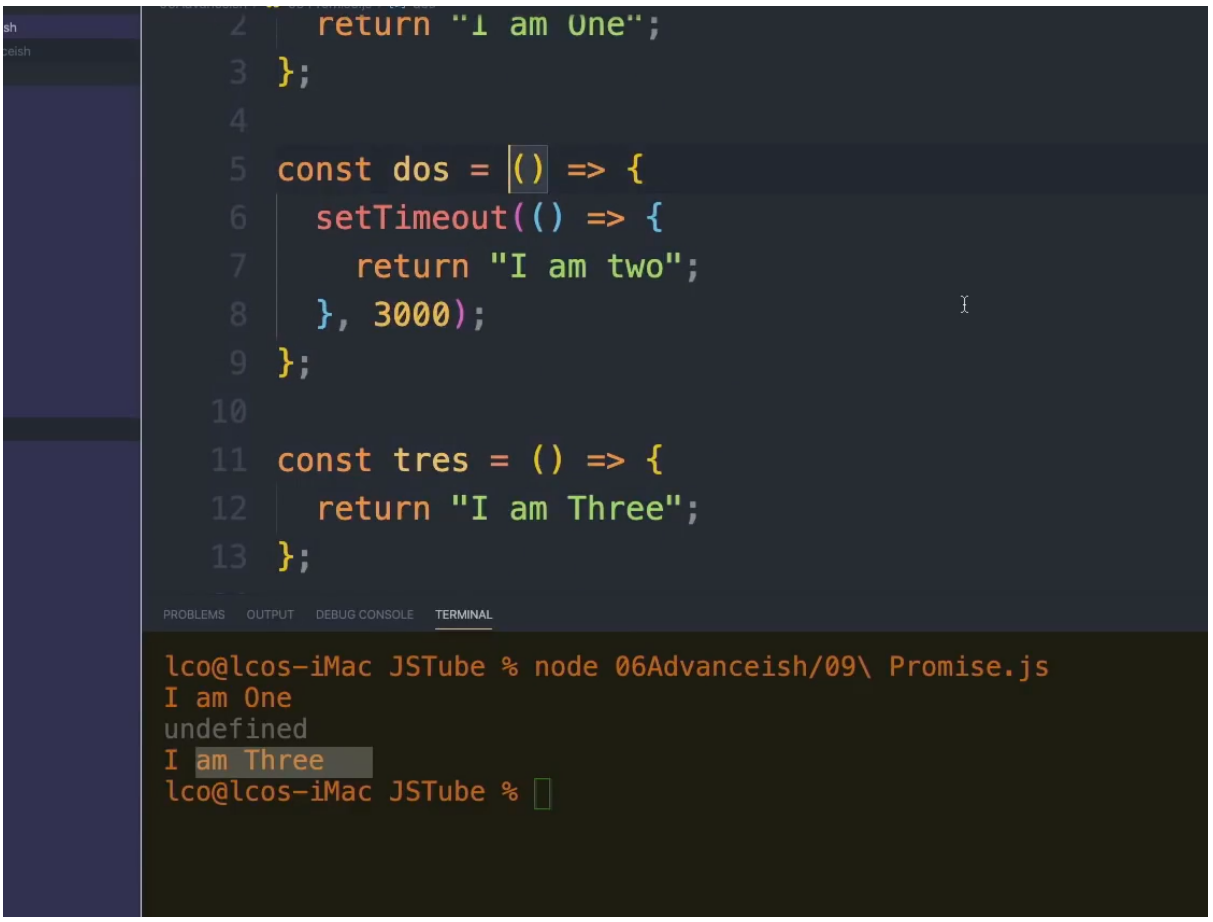
Object.prototype.constructor

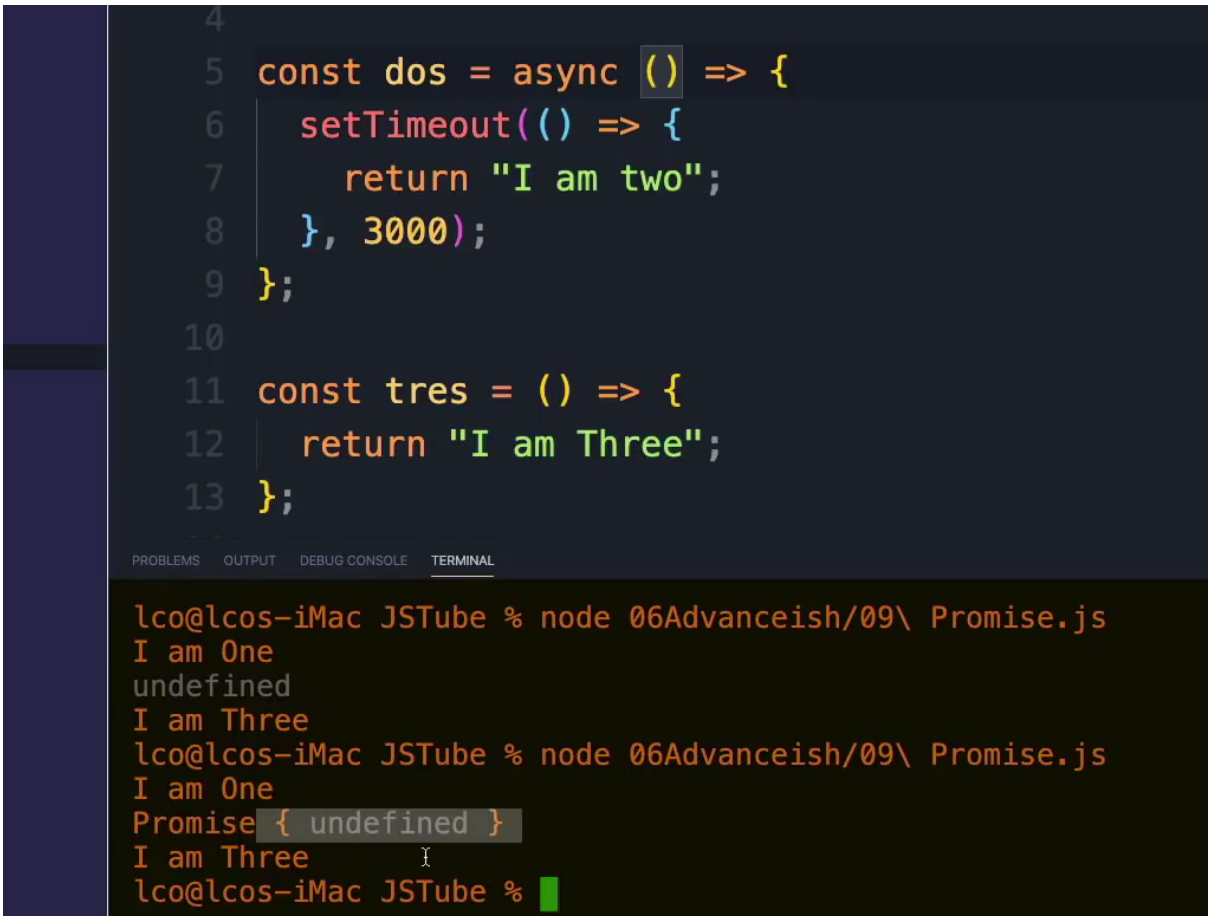
Methods

The `Object.create()` method creates a new object, using an existing object as the prototype of the newly created object.


Objects

—


return "I am One";
};
const dos = () => {
setTimeout(() => {
return "I am two";
}, 3000);
};
const tres = () => {
return "I am Three";
};
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
undefined
I am Three
lco@lcos-iMac JSTube %


const dos = async () => {
setTimeout(() => {
return "I am two";
}, 3000);
};
const tres = () => {
return "I am Three";
};
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
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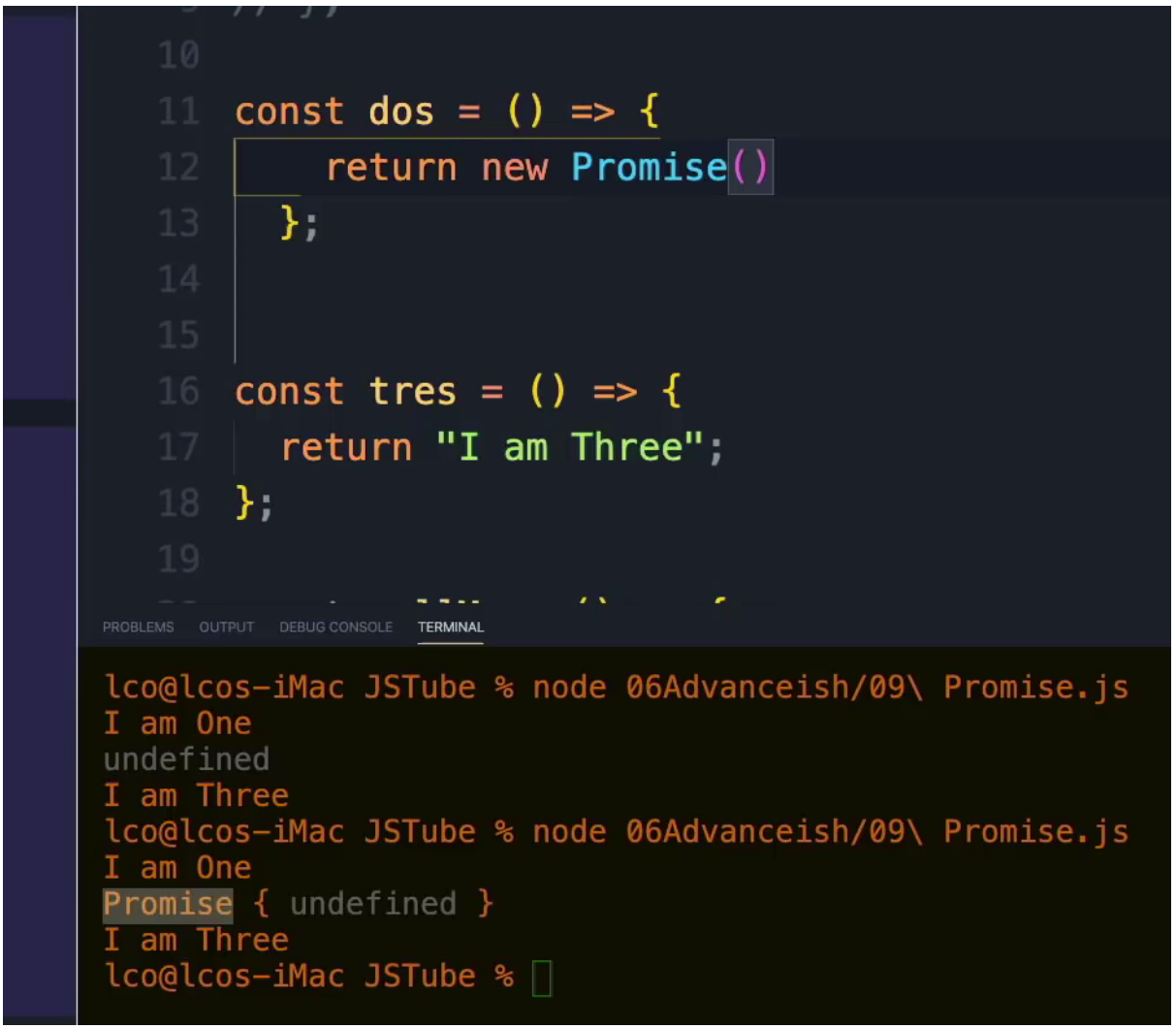
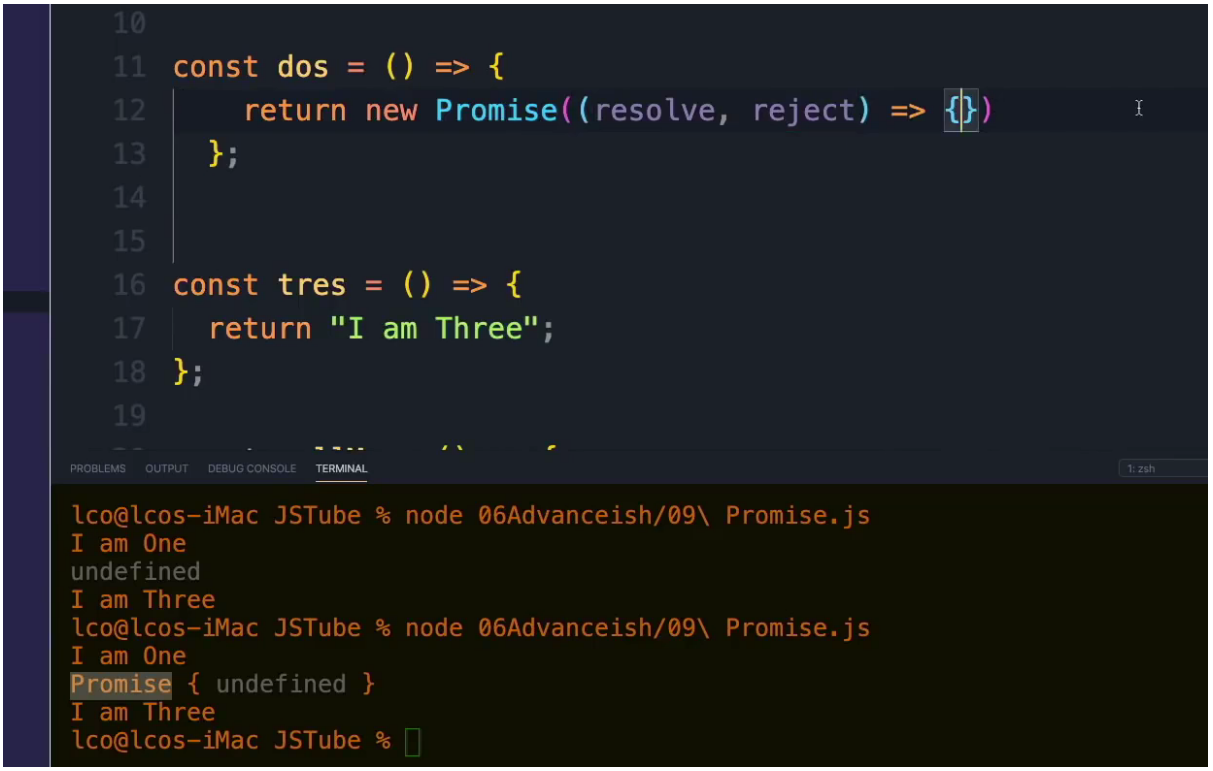
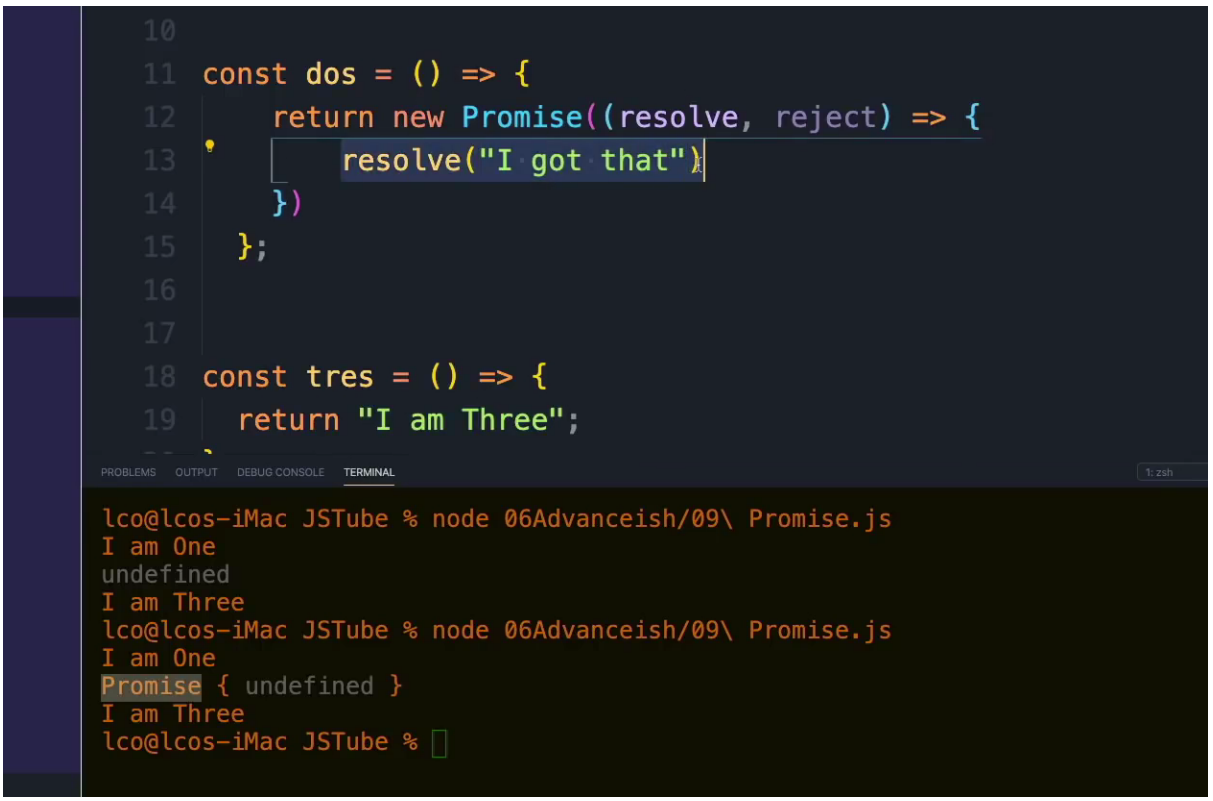
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
Promise { undefined }
I am Three
lco@lcos-iMac JSTube %


10
const dos = () => {
return new Promise()
};
14
15
const tres = () => {
return "I am Three";
};
19
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
undefined
I am Three
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
Promise { undefined }
I am Three
lco@lcos-iMac JSTube %


10
const dos = () => {
return new Promise((resolve, reject) => {})
};
14
15
const tres = () => {
return "I am Three";
};
19
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
1: zsh
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
undefined
I am Three
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
Promise { undefined }
I am Three
lco@lcos-iMac JSTube %


const dos = () => {
return new Promise((resolve, reject) => {
resolve("I got that")
})
};
const tres = () => {
return "I am Three";
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
undefined
I am Three
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
Promise { undefined }
I am Three
lco@lcos-iMac JSTube %


const dos = () => {
return new Promise((resolve, reject) => {
setTimeout(() => {
resolve("I am two");
}, 3000);
});
};
const tres = () => {
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
undefined
I am Three
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
Promise { undefined }
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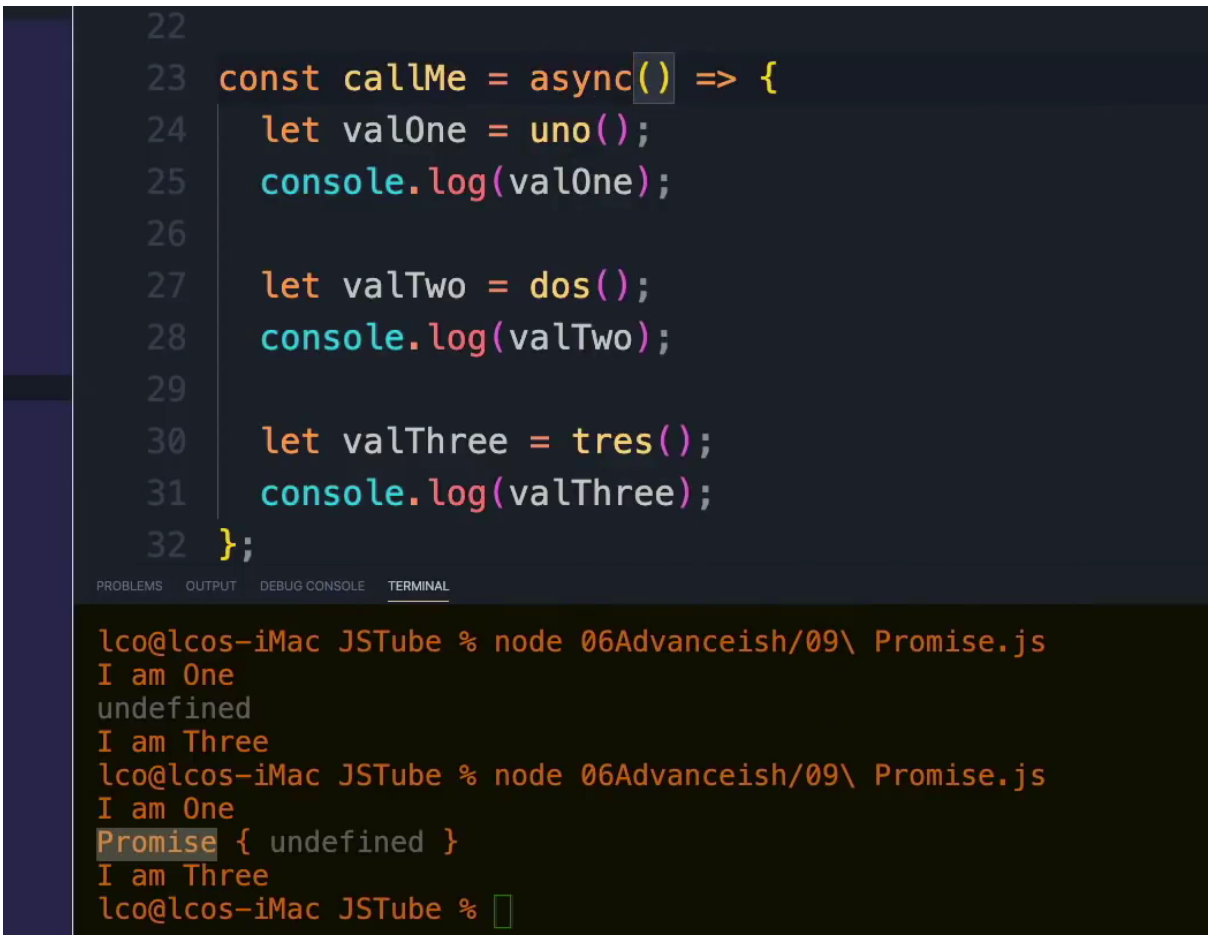
lco@lcos-iMac JSTube %


22
23 const callMe = async() => {
24 let valOne = uno();
25 console.log(valOne);
26
27 let valTwo = dos();
28 console.log(valTwo);
29
30 let valThree = tres();
31 console.log(valThree);
32 };
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
undefined
I am Three
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
Promise { undefined }
I am Three
lco@lcos-iMac JSTube %


22
23 const callMe = async () => {
24 let valOne = uno();
25 console.log(valOne);
26
27 let valTwo = await dos();
28 console.log(valTwo);
29
30 let valThree = tres();
31 console.log(valThree);
32 };
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
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I am Three
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
Promise { undefined }
I am Three
lco@lcos-iMac JSTube %

```
10
11 const dos = () => {
12   return new Promise((resolve, reject) => {
13     setTimeout(() => {
14       reject("I am two");
15     }, 3000);
16   });
17 };
18
19 const tres = () => {
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL                    1: zsh

I am two
I am Three
lco@lcos-iMac JSTube % node 06Advanceish/09\ Promise.js
I am One
(node:19769) UnhandledPromiseRejectionWarning: I am two
(Use `node --trace-warnings ...` to show where the warning was created)
(node:19769) UnhandledPromiseRejectionWarning: Unhandled promise rejection. This error o
ated either by throwing inside of an async function without a catch block, or by rejecti
promise which was not handled with .catch(). To terminate the node process on unhandled
```

```
e.__defineGetter__(
e.__defineSetter__(
e.__lookupGetter__(
e.__lookupSetter__(
e.hasOwnProperty()
e.isPrototypeOf()
e.propertyIsEnumer-
e.toLocaleString()
ype.toSource()
e.toString()
e.valueOf()
typeOf()
```

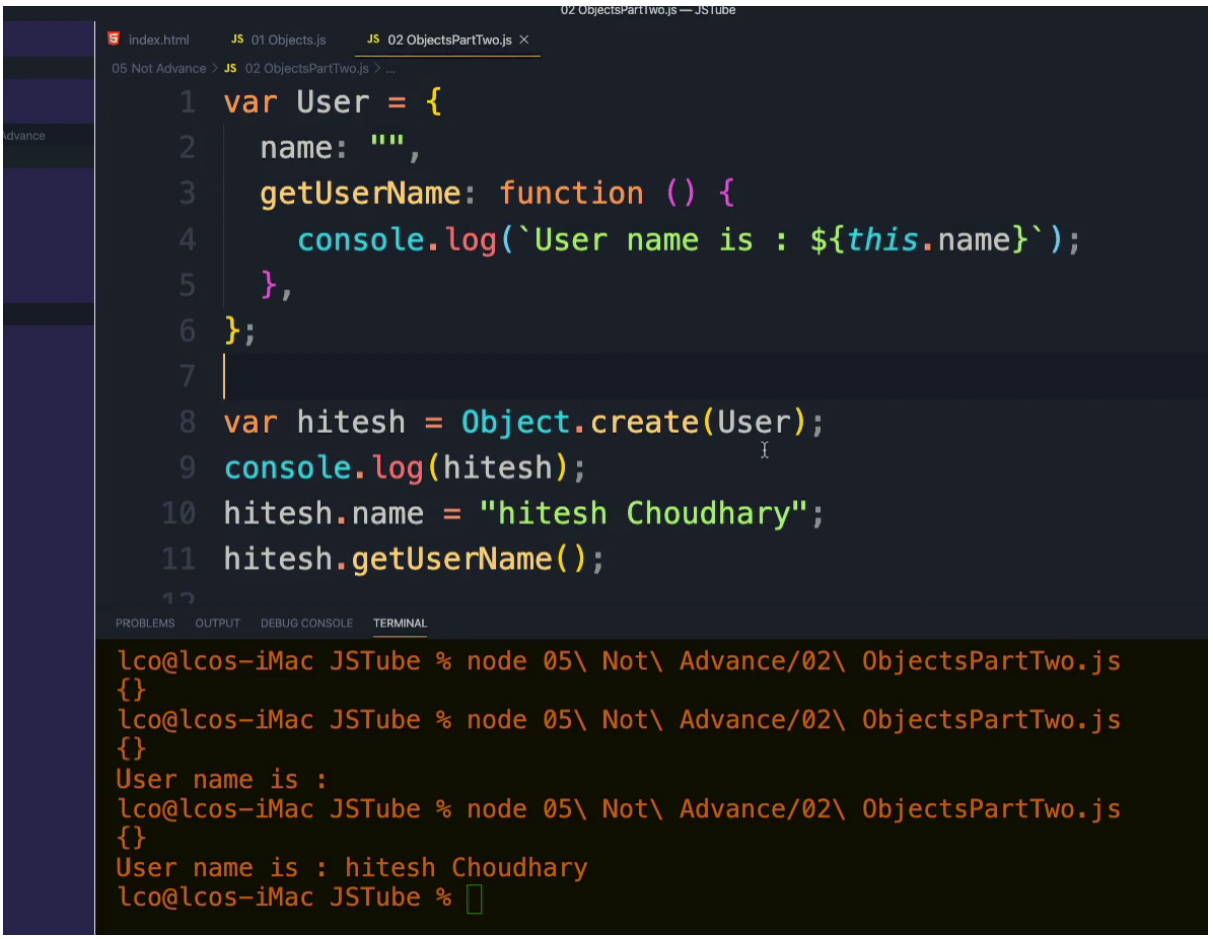
## Chained Promises

The methods `promise.then()`, `promise.catch()`, and `promise.finally()` are used to associate further action with a promise that becomes settled. These methods also return a newly generated promise object, which can optionally be used for chaining; for example, like this:

```
1  const myPromise =
2    (new Promise(myExecutorFunc))
3    .then(handleFulfilledA,handleRejectedA)
4    .then(handleFulfilledB,handleRejectedB)
5    .then(handleFulfilledC,handleRejectedC);
6
7  // or, perhaps better ...
8
9  const myPromise =
10   (new Promise(myExecutorFunc))
11   .then(handleFulfilledA)
12   .then(handleFulfilledB)
13   .then(handleFulfilledC)
14   .catch(handleRejectedAny);
```

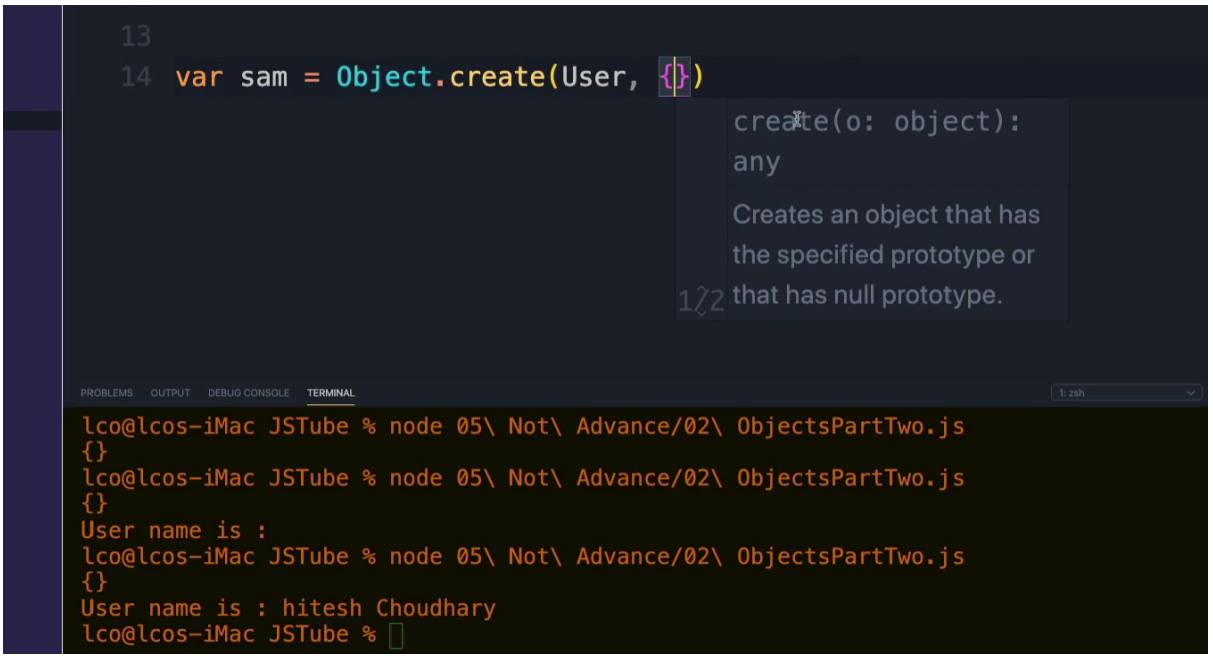
Handling a rejected promise too early has consequences further down the promise chain. Sometimes there is no choice, because an error must be handled immediately. (See `throw -999` in the example, below, for a technique to handle the consequences.) On the other hand, in the absence of an immediate need, it is simpler to leave out error handling until a final .catch() statement.

The signatures of these two functions are simple, they accept a single parameter of any type. These functions are written by you, the programmer. The termination condition of these functions determines the "settled" state of the next promise in the chain. Any termination other

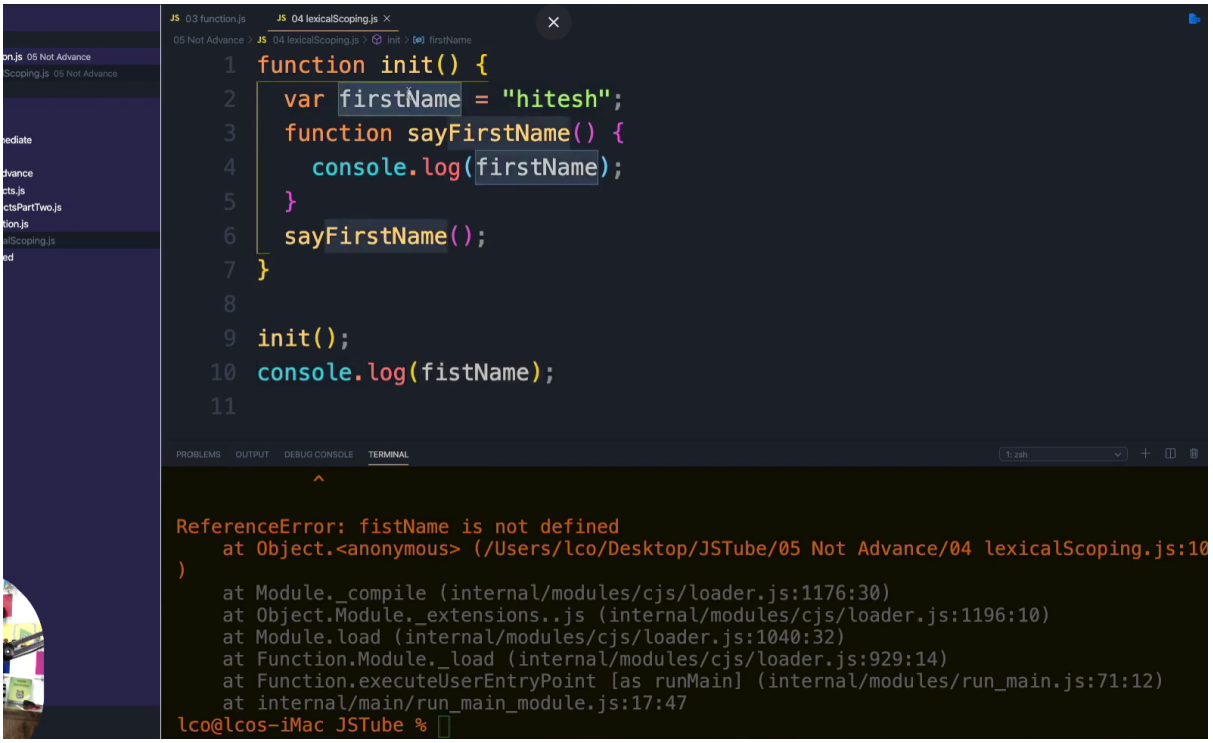



Once run in console and node environment

Adding properties to object

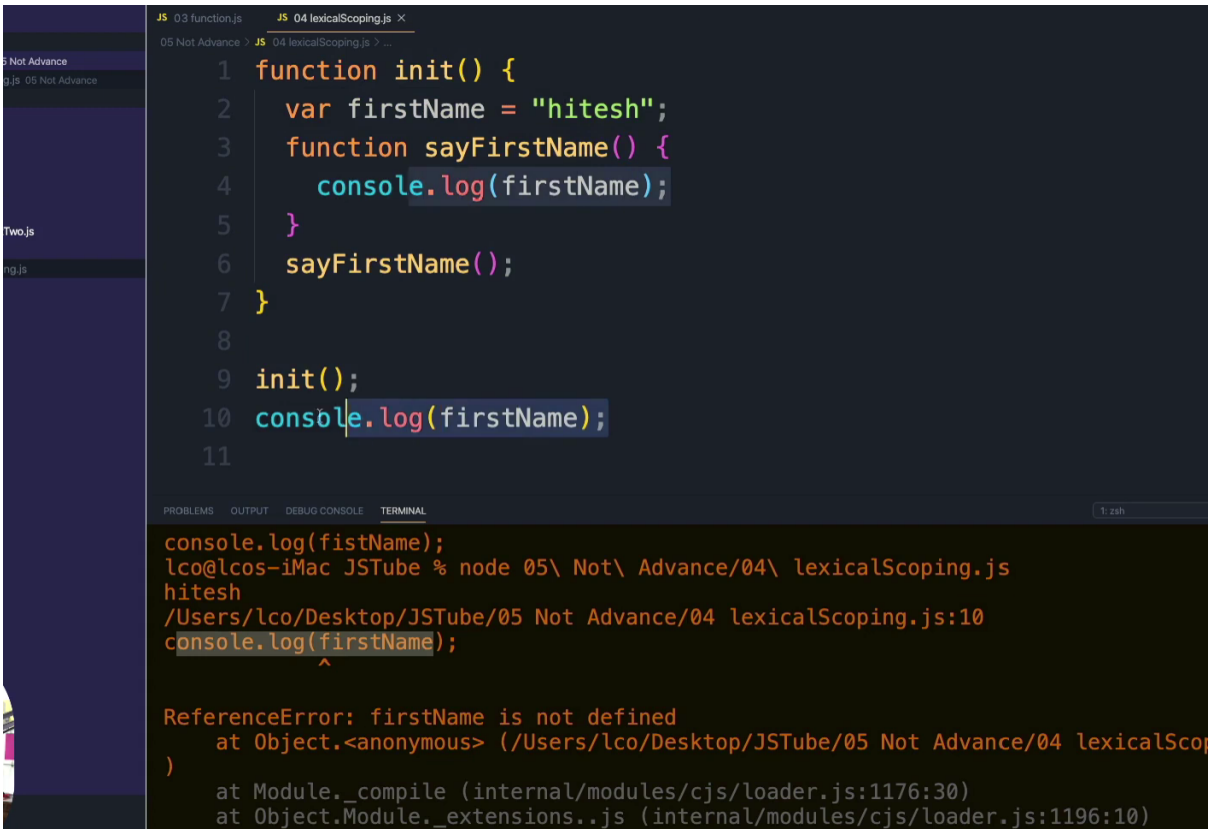


```
11  hitesh.getUserName();
12
13  var sam = Object.create(User, {
14    name: { value: "sammy" },
15    courseCount: { value: 3 },
16  });
17
```




ABODE CODE IT IS KNOWN LEXICAL SCOPING

CONTEXT GETS OVER





Then the above code things are different and it is called as closure
Then the above code is not called as the functional programming.
It moves into the closure territory approach

HOW TO GRAB WEB ELEMENTS in JS
=selecting elements on web page
==========
COUNTER PROJECT in JS

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Counter</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>
    <div class="container">
        <img
        height="100px"
        src=""
        alt="counterPic"
        >
        <h1 class="counter">1000</h1>
        <p class="followers">Followers</p>
    </div>

    <script src="./script.js"></script>
</body>
</html>
```

```
var counter = document.querySelector(".counter");
var followers = document.querySelector(".followers");

// counter.innerHTML = 1002;

let count = 1;

setInterval( //conditional you can use
    () => {
        count++
        counter.innerText = count;
    },1
)
//vanilla js is good for like this..
setTimeout(()=>{
    followers.innerHTML = "Followers on Instagram";
},5000)
```

GET COMPUTED PROPERTIES in JS

EVENT LISTENER in JS
=clicking on subscribe button is called as an Event
FW : React, Angular, Vue
contains the events listeners
//proto types first letter is declared as capital

NEW KEYWORD in JS

```
//below is correct proto type
var User = function(firstName,lastName,email,courseCount){
    this.firstName = firstName;
    this.lastName = lastName;
    this.email = email;
    this.courseCount = courseCount;

    this.getCourseCount = function(){
        console.log(`course count is: ${this.courseCount}`)
    }

}

            //below functional approach is not working. so to create obj use new keyword
var sidduganesh = new User("sidduganesh","musa","sidduganeshengineer@gmail.com",3);

console.log(sidduganesh);

var aakashganesh = new User("aakashganesh","musa","aakashganesh14@gmail.com",1);

console.log(aakashganesh);
```

---

WHAT IS PROTO in JS

```
//below is correct proto type
var User = function(firstName,lastName,email,courseCount){
    this.firstName = firstName;
    this.lastName = lastName;
    this.email = email;
    this.courseCount = courseCount;

    this.getCourseCount = function(){
        console.log(`course count is: ${this.courseCount}`)
    }

}
//without touching the actual function. Injecting the properties
```

```
User.prototype.getFirstname = function(){
    console.log(`you firstname is : ${this.firstName}`);
}// above prototype like that code is used in the TypeScript
//every thing that is available in the prototype you can actually overriden it.
```

BETTER CODE WITH OBJECT CHAIN in JS

OBJECTS from mdn

SELF - EXECUTING ANONYMOUS FUNCTION(also called as IIFE)

```
//self executing anonymous function
(function ()
{
    console.log("Hey, How do you do?");
})();
```

//very rarely used
use cases : testing , web scriping

and FUNCTIONAL PROGRAMMING
funtion that calls itself after declaring it
that is
()=>{} or ()=>{}

LEXICAL SCOPING
redux seems tough bcz it uses the closures in it
=lexical scoping is the classical way of writing the javascript

BORROW A METHOD USING BIND
bind is a method inside the getinfo
it is present and imp in js
bind actually gives reference
bind() always gives you reference back
call() directly calls the method/function

```
const hitesh = {
  firstName: "Hitesh",
  lastName: "Choudhary",
  role: "Admin",
  courseCount: 3,
  getInfo: function () {
    console.log(`
        First name is ${this.firstName}
        Last name is ${this.lastName}
        His role is ${this.role}
        and he is studying ${this.courseCount} courses
        `);
  },
```

```
};

const dj = {
  firstName: "Rock",
  lastName: "DJ",
  role: "Sub-Admin",
  courseCount: 4,
};

// hitesh.getInfo();
// dj.getInfo();

// var djInfo = hitesh.getInfo.bind(dj);
// djInfo();

hitesh.getInfo.call(dj);
```

GET TO KNOW NODE ELEMENTS in JS
elements and Text nodes
list of classes

GENERATING ELEMENTS AND TEXT NODE IN DOM

SOLUTION OF SCOPE PROBLEM
olden data JS is used only for fend.
after years it is used for mobile and routing
and a lot more.
so they introducted let keyword
let is used for error and backend

js considers the functions only as scope
not the blocks for if,for and other

TEMPLATE LITERALS IN JS

MAPS in JS
//another thing in JS modern edition is MAPS

DESTRUCTUREIN THE DATA in jS
depicking the data
only thinks as happens in objects
but not happens in  other places

rhs datatype to lhs datatype

SPREAD AND REST operators

CLASSES AND MODULE EXPORT in JS

PRIVATE PROPS GETTERS AND SETTERS in JS
# to properties

INHERITANCE in JS
extends keyword
super() function inside constructer
static keyword to make few functions private or personal can't be extended

EVENT LOOP will JS wait

PROMISE Async and Await in JS
promises, resolve ,reject ,Async and Await

HOW TO HANDLE API in JS
we can call API using core JS
but we can't call it using node js
API
https://api.chucknorris.io/

now we can handle api's
bcz we know ajax and async

api
weather
google maps
firebase api's
facebook
chucknorris

JSON format
XML format is old (not used currently)

JSON chrome add-on's createds some problem
disable them the create problem in web

what is type:cors ?

core essential thing

Django, nodebase,cors you should know