



**N**ULL  
**N**UMBER  
**S**YMBOL  
**S**TRING  
**B**OOLEAN  
**B**IGINT  
**U**NDEFINED

and U - means Undefined



File Edit Selection View Go Run ... Javascript- [Codespaces: psychic chainsaw]

EXPLORER

OPEN EDITORS 1 unsaved

- JS 01\_arrayjs... U
- JS nmbssujs... U
- JS objectjs... U
- JS 02\_arrayjs... U

JAVASC...

- .devcontainer
- { } devcontainer.json
- 01\_array
- JS 01\_arrayjs U
- JS 02\_arrayjs U
- 01\_basic
- JS 01.js M
- nmbssuobject
- JS nmbssujs U
- JS objectjs U
- README.md

OUTLINE

TIMELINE

DEBUG CONSOLE

Filter (e.g. text, ...)

PROBLEMS OUTPUT TERMINAL PORTS

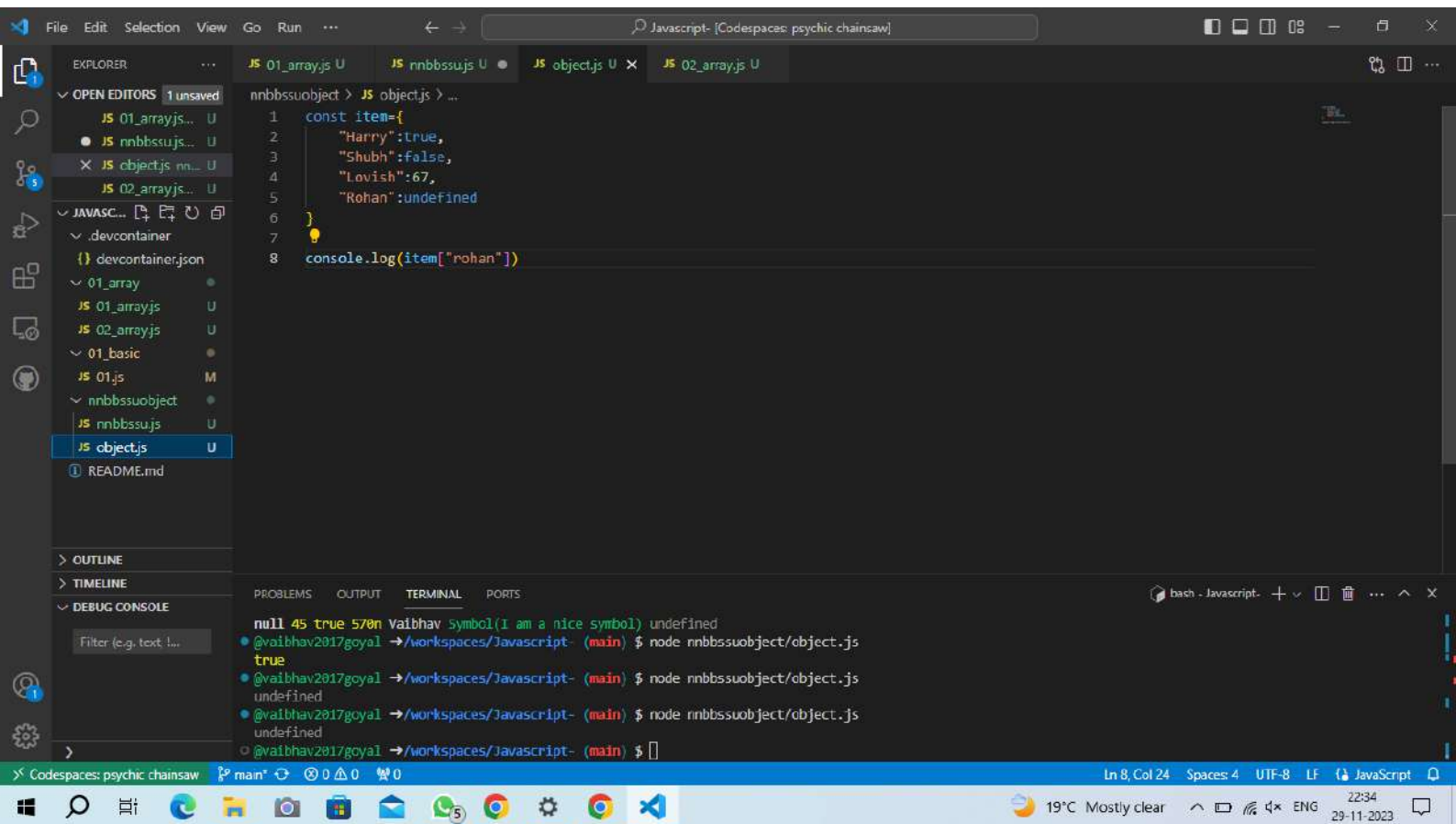
bash - Javascript- + - - - ^ X

```
null 45 true 570n Vaibhav Symbol(I am a nice symbol) undefined
@vaibhav2017goyal →/workspaces/Javascript- (main) $ node nmbssuobject/object.js
true
@vaibhav2017goyal →/workspaces/Javascript- (main) $ node nmbssuobject/object.js
undefined
@vaibhav2017goyal →/workspaces/Javascript- (main) $ node nmbssuobject/object.js
undefined
@vaibhav2017goyal →/workspaces/Javascript- (main) $
```

Ln 19, Col 27 Spaces: 4 UTF-8 LF JavaScript

19°C Mostly clear 22:34 29-11-2023

```
1 /*
2 null      n
3 number    n
4 bigint    b
5 boolean   b
6 symbol    s
7 string    s
8 undefined u
9 n n b b s s u
10 */
11
12 let a=null;
13 let b=45;
14 let c=true;
15 let d=BigInt("567")+0igInt("3")
16 let e="Vaibhav"
17 let f=Symbol("I am a nice symbol")
18 let g=undefined
19 console.log(a,b,c,d,e,f,g)
```



# TYPES OF CONVERSION

- STRING
- BOOLEAN
- NUMBER

# IMPLICIT V/S EXPLICIT COERSION

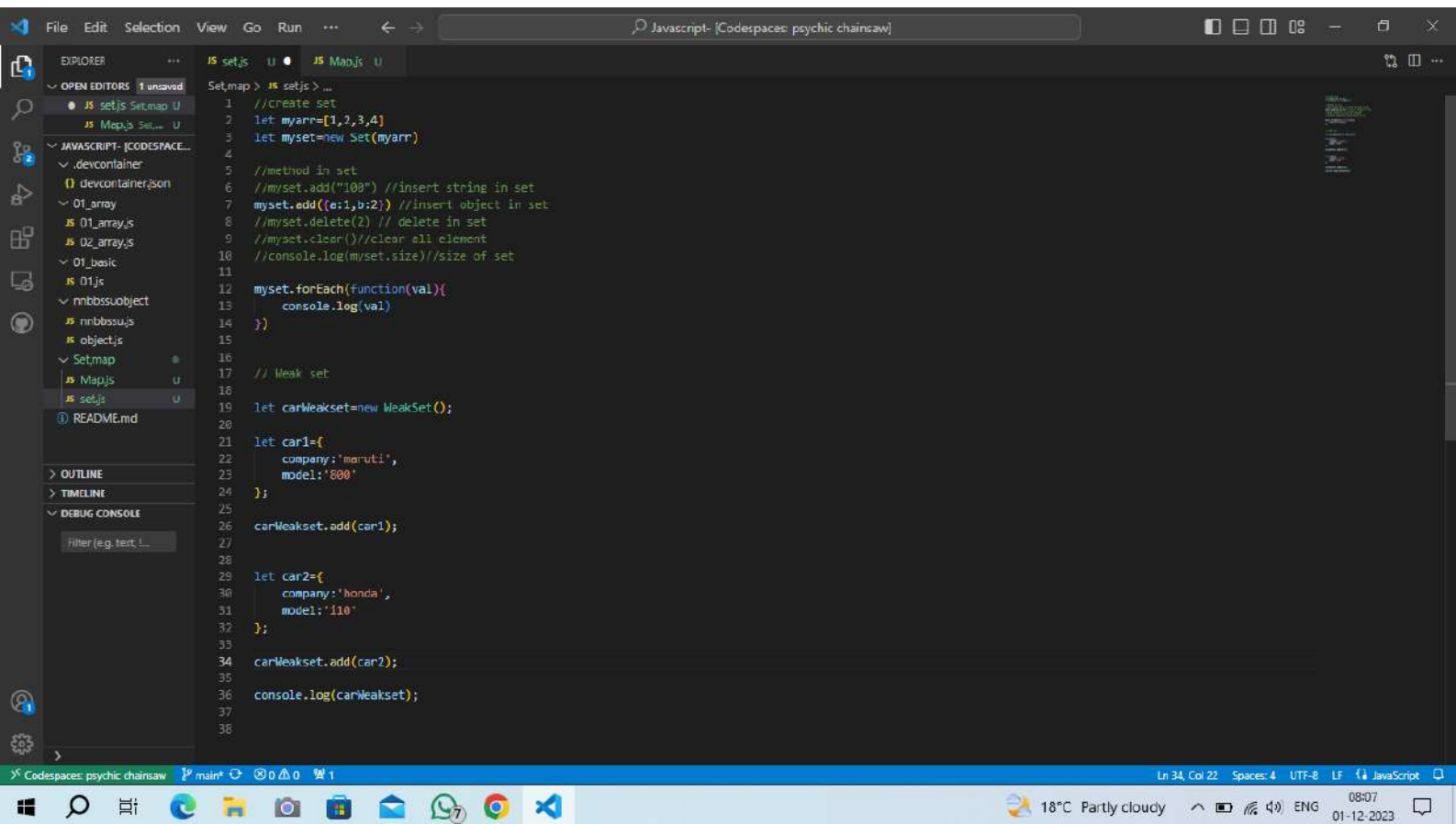
```
true + false           // 1
12 / "6"               // 2
"number" + 15 + 3      // 'number153'
15 + 3 + "number"      // '18number'
[1] > null              // true
"foo" + + "bar"        // 'fooNaN'
'true' == true          // false
false == 'false'       // false
null == ''             // false
!!"false" == !!"true"  // true
['x'] == 'x'           // true
[] + null + 1          // 'null1'
[1,2,3] == [1,2,3]     // false
{}+[]+{}+[1]           // '0[object Object]1'
!+[]+[]+![]           // 'truefalse'
new Date(0) - 0         // 0
new Date(0) + 0         // 'Thu Jan 01 1970 02:00:00(EET)0'
```

IMPLICIT

# IMPLICIT V/S EXPLICIT COERSION

```
String(123)           // '123'  
String(-12.3)         // '-12.3'  
String(null)          // 'null'  
String(undefined)     // 'undefined'  
String(true)          // 'true'  
String(false)         // 'false'
```

**EXPLICIT**





File Edit Selection View Go Run ... ← → Javascript- [Codespaces: psychic chainsaw]

EXPLORER ... JS setjs U JS Mapjs U X

OPEN EDITORS 1 unsaved

- JS setjs Setmap U
- JS Mapjs Set... U

JAVASCRIPT- [CODESPACE...]

- .devcontainer
- devcontainer.json
- 01\_array
- JS 01\_arrayjs
- JS 02\_arrayjs
- 01\_basic
- JS 01.js
- nmbssuobject
- JS nmbssujs
- object.js
- Setmap
- JS Mapjs U
- JS setjs U

OUTLINE

TIMELINE

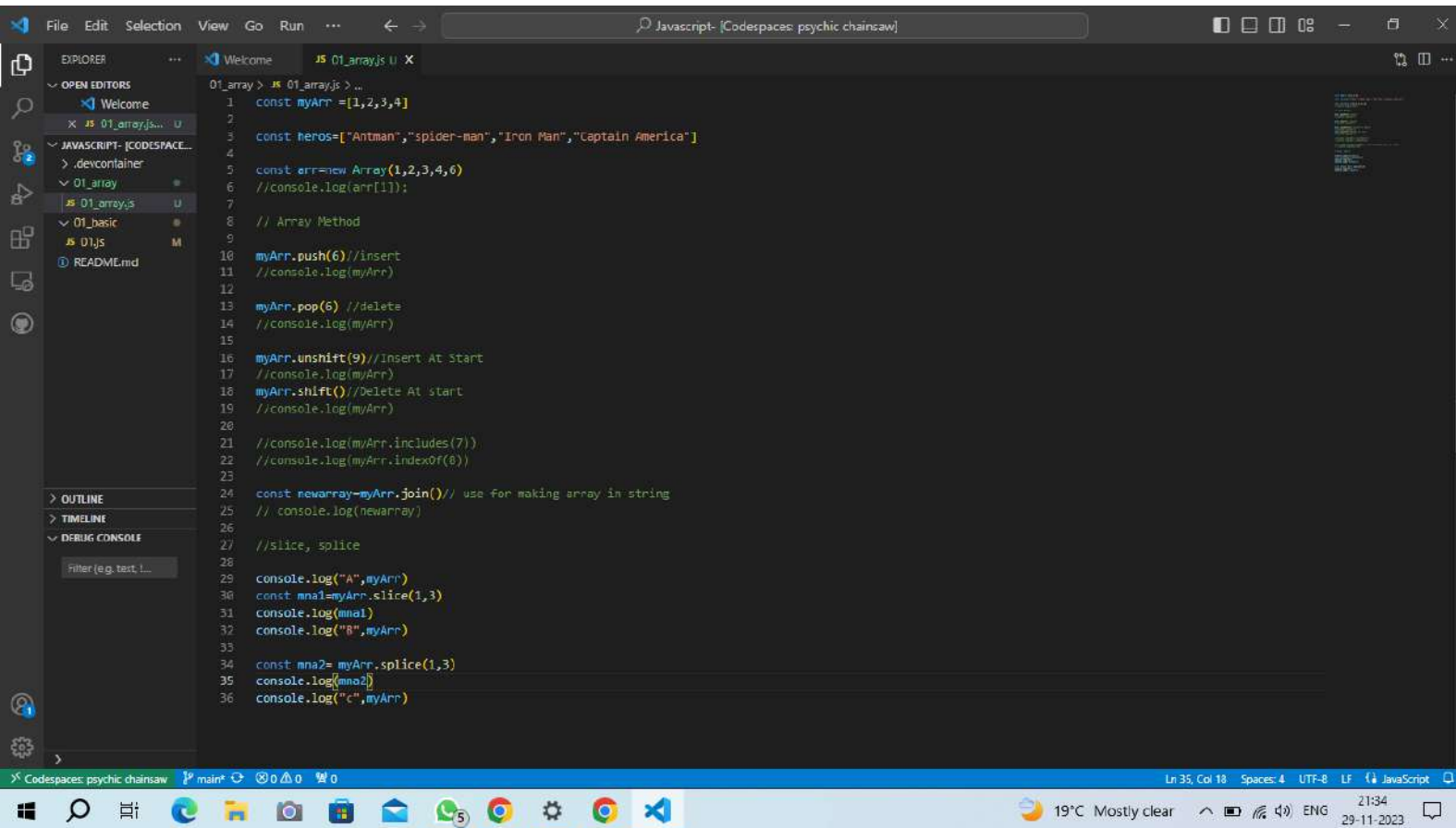
DEBUG CONSOLE

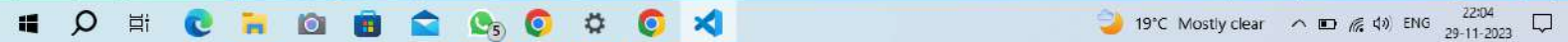
Filter (e.g. text, l...)

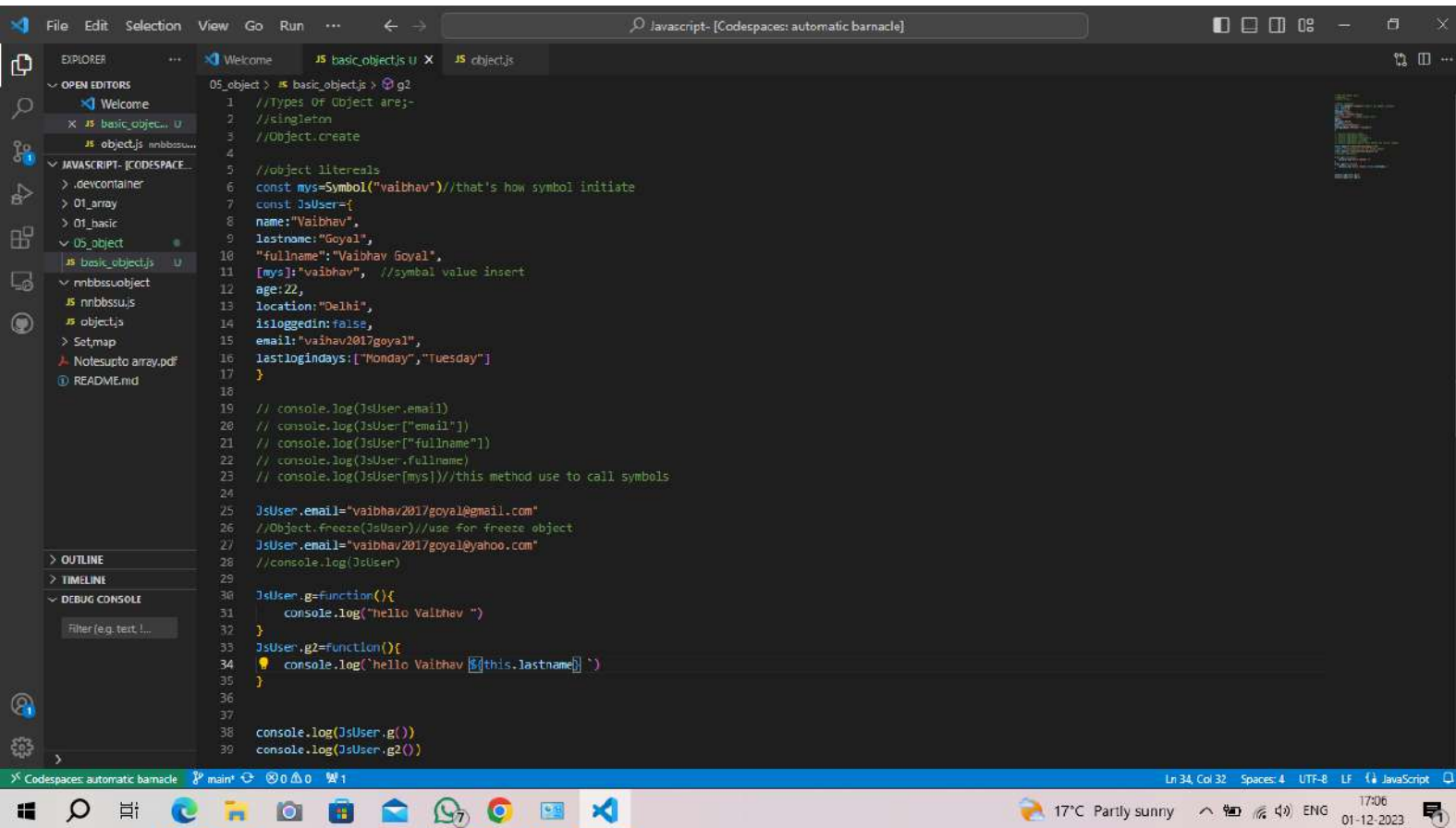
```
Setmap > JS Mapjs > [0] car1
1 let mymap= new Map([["a1","hello"],["b1","Goodbye"]])
2 mymap.set("c3","Vaibhav")
3 mymap.delete("b1")
4 mymap.clear()
5 //console.log(mymap.size)
6
7 //weakmap
8 let carWeakMap=new WeakMap();
9 let key1={
10   id:1
11 }
12 let car1={
13   company:'maruti',
14   model:'800'
15 }
16
17 carWeakMap.set(key1,car1);
18
19 let key2={
20   id:2
21 }
22 let car2={
23   company:'maruti',
24   model:'800'
25 }
26
27 carWeakMap.set(key2,car2);
28 console.log(carWeakMap)
```

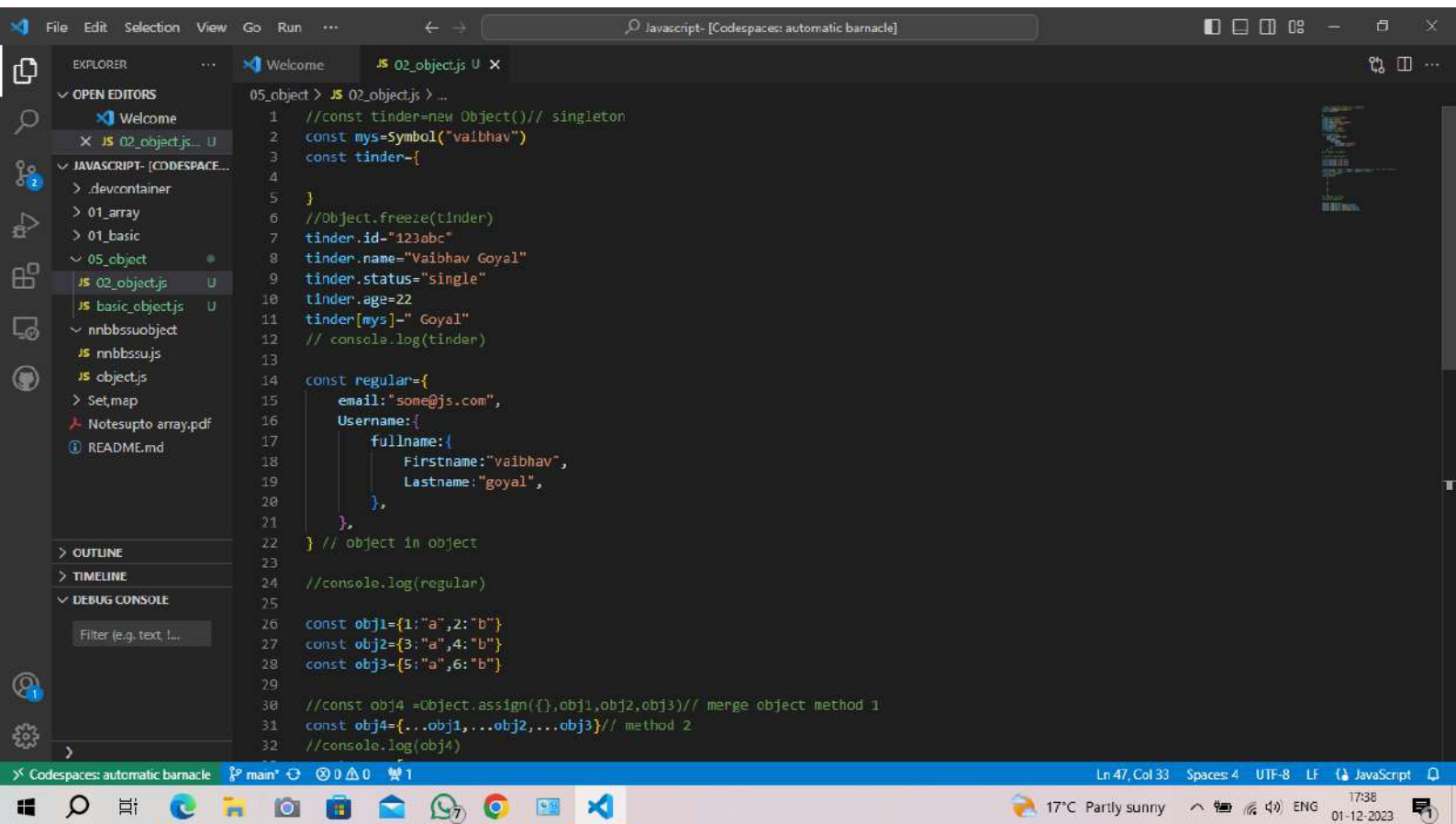
Codespaces: psychic chainsaw main 0 0 1 Ln 12, Col 11 Spaces: 4 UTF-8 LF JavaScript 18°C Partly cloudy 08:14 01-12-2023











File Edit Selection View Go Run ... Javascript- [Codespaces: automatic barnacle]

EXPLORER

OPEN EDITORS

- Welcome
- JS 02\_objectjs U

JAVASCRIPT- [CODESPACE...]

- .devcontainer
- 01\_array
- 01\_basic
- 05\_object
  - JS 02\_objectjs U
  - JS basic\_objectjs U
  - JS nmbssuobject
  - JS objectjs
- Set, map
- Notesupto array.pdf
- README.md

OUTLINE

TIMELINE

DEBUG CONSOLE

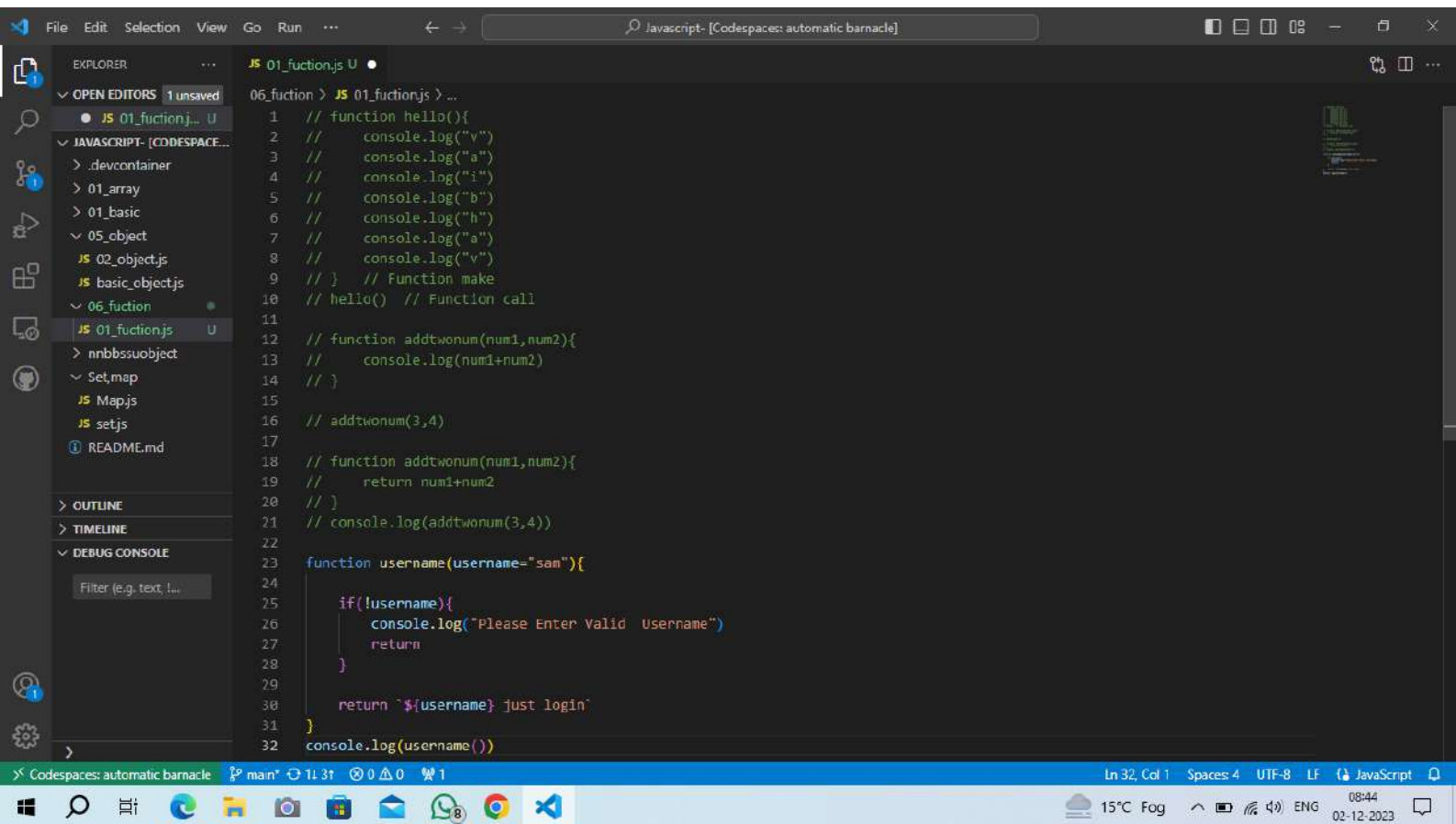
Filter (e.g. text, ...)

05\_object > JS 02\_objectjs > ...

```
23
24 //console.log(regular)
25
26 const obj1={1:"a",2:"b"}
27 const obj2={3:"a",4:"b"}
28 const obj3={5:"a",6:"b"}
29
30 //const obj4 =Object.assign({},obj1,obj2,obj3)// merge object method 1
31 const obj4={...obj1,...obj2,...obj3}// method 2
32 //console.log(obj4)
33 const user=[
34   {
35   },
36 },
37 {
38 },
39 },
40 {
41 },
42 }
43 ]// objects in array
44 //console.log(user)
45
46 console.log(tinder)
47 console.log(Object.keys(tinder))
48 console.log(Object.values(tinder))
49 console.log(Object.entries(tinder))
50 console.log(tinder.hasOwnProperty('name'))]
```

Ln 50, Col 42 Spaces: 4 UTF-8 LF JavaScript

17°C Partly sunny 17:40 01-12-2023



JavaScript - [Codespaces: automatic barnacle]

EXPLORER

OPEN EDITORS 1 unsaved

- JS 01\_function.js U
- JS 02\_function.js U

JAVASCRIPT - [CODESPACE...]

- .devcontainer
- 01\_array
- 01\_basic
- 05\_object
  - JS 02\_object.js
  - JS basic\_object.js
- 06\_fuction
  - JS 01\_fuction.js U
  - JS 02\_fuction.js U
- nbbssuobject
- Set,map
  - JS Map.js
  - JS set.js
- README.md

OUTLINE

TIMELINE

DEBUG CONSOLE

Filter (e.g. text, !...)

```
7
8 const obj={
9     name: "vaibhav",
10    price:"999"
11 }
12
13 function handleobj(anyobject){
14     //console.log(`${anyobject.name} is useername and price is ${anyobject.price}`)
15 }
16
17 handleobj({
18     name:"abc",
19     price:99
20 })
21
22 const newarray=new Array(100,200,300,400)
23
24 function handlearr(getarr){
25     console.log(getarr[1])
26 }
27
28 //handlearr(newarray)
29 handlearr([2,3,4,5,6])
```

Ln 28, Col 3 Spaces: 4 UTF-8 LF JavaScript

09:14 02-12-2023



File Edit Selection View Go Run ... Javascript- [Codespaces: laughing system]

EXPLORER

OPEN EDITORS

Javascript- (CODESPACE...)

07\_scope > JS 01\_scopejs > ...

```
1 //let a=2
2 //const b=3
3 var c=4
4
5 if(true){
6   let a=20
7   const b=30
8   c=40
9 }
10
11 //console.log(a)
12 //console.log(b)
13 console.log(c)
```

PROBLEMS OUTPUT TERMINAL PORTS 2 SEARCH TERMINAL OUTPUT COMMENTS

at Module.<sub>load</sub> (node:internal/modules/cjs/loader:938:12)  
at Function.<sub>executeUserEntryPoint</sub> [as runMain] (node:internal/modules/run\_main:83:12)  
at node:internal/main/run\_main\_module:23:47

Node.js v20.9.0  
@vaibhav2017goyal →/workspaces/Javascript- (main) \$ node 07\_scope/01\_scope.js  
40  
@vaibhav2017goyal →/workspaces/Javascript- (main) \$

Codespaces: laughing system main\* 0 0 2 Share Code Link Generate Commit Message Comment Code Generate Repo Blackbox Search Terminal Output ✓ Spell tabnine starter Prettier

15°C Fog 17:50 02-12-2023

File Edit Selection View Go Run ... Javascript- [Codespaces: laughing system]

EXPLORER

OPEN EDITORS

- JS 01\_scopejs... U
- JS 02\_scopejs... U

JAVASCRIPT- [CODESPACE...]

- .devcontainer
- .vscode
- 01\_basic
- 02\_rnbbssuobject
- 03\_Set\_map
- 04\_array
- 05\_object
- 06\_function
- 07\_scope
- JS 01\_scopejs U
- JS 02\_scopejs U
- 08
- Notes upto objects.pdf
- README.md

07\_scope > JS 02\_scopejs > one

Click here to ask Blackbox to help you code faster

```
1 addone(5)
2 function addone(num1) {
3   return num1+1
4 }
5
6 //addtwo(5)
7 const addtwo=function (num2) { //addtwo(5)
8   return num2+2 //ReferenceError: Cannot access 'addtwo' before initialization
9 }
10
11 function one(){
12   const username="Vaibhav"
13   function two(){
14     const game="Bgmi"
15     console.log(username)
16   }
17   //console.log(game) //can't access outside function
18   two()
19 }
20 one()
21
22
```

PROBLEMS 2 OUTPUT TERMINAL PORTS 2 SEARCH TERMINAL OUTPUT

at Module.\_load (node:internal/modules/cjs/loader:938:12)  
at Function.executeUserEntryPoint [as runMain] (node:internal/modules/run\_main:83:12)  
at node:internal/main/run\_main\_module:23:47

Node.js v20.9.0  
@vaibhav2017goyal →/workspaces/Javascript- (main) \$ node 07\_scope/02\_scope.js  
Vaibhav  
@vaibhav2017goyal →/workspaces/Javascript- (main) \$

Codespaces: laughing system main\* 0 0 0 2 2 Share Code Link Generate Commit Message Comment Code Generate Repo Blackbox Search Terminal Output Blackbox 2 Spell Prettier

15°C Fog 18:07 02-12-2023

File Edit Selection View Go Run ... JavaScript - [Codespaces: laughing system]

EXPLORER

OPEN EDITORS 1 unsaved

Welcome

JS 01\_this\_arrow.js U

JAVASCRIPT- [CODESPACE...]

> 06\_function

> 07\_scope

> 08\_this\_arrow\_f...

JS 01\_this\_arrow.js U

Notes upto objects.pdf

OUTLINE

TIMELINE

DEBUG CONSOLE

Filter (e.g. text, !...)

08\_this\_arrow\_function > JS 01\_this\_arrow.js > user

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```
1 const user={
2   name:"Vaibhav",
3   price:999,
4
5   welcomemessage: function(){
6     console.log(`${this.name}, welcome to javascript`);
7   }
8 }
9
10 user.welcomemessage()
11 // console.log(this)
12
13 //arrow function
14 // function ()={}, ()=>{}
15
16 // const add= (x,y)=>{return x+y;}//first method
17 const add= (x,y)=> x+y//second method use in react
18 console.log(add(5,6))
```

Codespaces: laughing system main\* 0 0 3 Share Code Link Generate Commit Message Comment Code Generate Repo Blackbox Search Terminal Output Go Live Blackbox Spell Prettier

15°C Fog 22:16 02-12-2023

File Edit Selection View Go Run ... Javascript- [Codespaces: laughing system]

EXPLORER

OPEN EDITORS 2 unsaved

- Welcome
- JS 01\_this\_arrow.js U
- JS 02\_IIFE.js U

JAVASCRIPT- (CODESPACE: ...)

- > 06\_function
- > 07\_scope
- > 08\_this\_arrow\_f...
- JS 01\_this\_arrow.js U
- JS 02\_IIFE.js U

OUTLINE

TIMELINE

DEBUG CONSOLE

Filter (e.g. text, ...)

08\_this\_arrow\_function > JS 02\_IIFE.js > ...

Click here to ask Blackbox to help you code faster

```
1 //Immediately Invoked Function Expressions (IIFE)
2
3 (function one(){           //Named IIFE
4     console.log("Hello World ");
5 })();
6
7 ((name)=>{                // arrowed or Unnamed IIFE
8     console.log(`Hello,${name}`);
9 })(`vaibhav`);
```

PROBLEMS OUTPUT TERMINAL PORTS SEARCH TERMINAL OUTPUT

bash - Javascript- + - - - ^ X

- @vaibhav2017goyal → /workspaces/Javascript- (main) \$ node 08\_this\_arrow\_function/01\_this\_arrow.js  
Vaibhav, welcome to javascript  
{}
- @vaibhav2017goyal → /workspaces/Javascript- (main) \$ node 08\_this\_arrow\_function/02\_IIFE.js  
Hello World  
Hello,vaibhav
- @vaibhav2017goyal → /workspaces/Javascript- (main) \$

Codespaces: laughing system main\* 0 0 0 3 Share Code Link Generate Commit Message Comment Code Generate Repo Blackbox Search Terminal Output Go Live Blackbox Spell Prettier

15°C Fog 22:24 02-12-2023

## Javascript Execution Context

$\{ \}$  → Global EC ↖ this

↳ Global Execution Context

↳ Function Execution Context

↳ Eval Execution Context

`{ }` → Memory Creation Phase  
→ Execution Phase

```
1 let val1 = 10
2 let val2 = 5
3 function addNum(num1, num2){
4   let total = num1 + num2
5   return total
6 }
7 let result1 = addNum(val1, val2)
8 let result2 = addNum(10, 2)
```





Screenflow File Edit Mark Clip Insert Actions Font Arrange View Window Help

New Tab X New Tab

9:41 AM Tue 9 Jan

① → Global Execution  
↓  
this

② Memory Phase

val1 → undefined  
val2 → undefined  
addNum → definition  
result1 → undefined  
result2 → undefined

③ Execution Phase

val1 ← 10  
val2 ← 5  
addNum →  
result1 = 15

new variable environment + Execution thread

Delete

Memory Phase

val1 → undefined  
val2 → undefined  
total → undefined

Execution Context

num1 → 10  
num2 → 5  
total → 15

```
1 let val1 = 10
2 let val2 = 5
3 function addNum(num1, num2){
4   let total = num1 + num2
5   return total
6 }
7 let result1 = addNum(val1, val2)
8 let result2 = addNum(10, 2)
```



Screenflow File Edit Mark Clip Insert Actions Font Arrange View Window Help

New Tab X New Tab

Search Google or type a URL

9:41 AM Tue 9 Jan

Execution Thread

Delete

Memory Phase

val1 → undefined  
val2 → undefined  
total → undefined

Execution Context

num1 → 10  
num2 → 5  
total → 15

Memory Phase

Execution Phase

NVE + thread

total

```
graph TD; subgraph "Memory Phase"; val1[undefined]; val2[undefined]; total1[total]; end; subgraph "Execution Context"; num1[10]; num2[5]; total2[total]; end; subgraph "Execution Thread"; Delete[Delete]; end; subgraph "NVE + thread"; end; total1 --> total2; total2 --> Delete; total2 --> NVE[NVE + thread];
```

ScreenFlow Tue 9 Jan 9:41 AM 100%

New Tab New Tab

Search Google or type a URL

Memory Phase Execution Phase + thread

Lifo

three()

two()

one()

Global Exec

File Edit Selection View Go Run ... JavaScript- [Codespaces: laughing system]

EXPLORER

OPEN EDITORS 1 unsaved

- JS 01\_if\_elsejs... U

JAVASCRIPT- (CODESPACE...)

- > .devcontainer
- > .vscode
- > 01\_basic
- > 02\_rnbbssuobject
- > 03\_Set\_map
- > 04\_array
- > 05\_object
- > 06\_function
- > 07\_scope
- > 08\_this\_arrow\_function
- > 09\_control\_flow
- JS 01\_if\_elsejs U
- README.md

OUTLINE

TIMELINE

DEBUG CONSOLE

Filter (e.g. text, !...)

09\_control\_flow > JS 01\_if\_elsejs > ...

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```
1 // const score=950
2 // if(score<250){
3 //   console.log('Less than 250');
4 // }
5 // else if(score<500){
6 //   console.log('Less than 500');
7 // }
8 // else if(score<750){
9 //   console.log('Less than 750');
10 // } else {
11 //   console.log('near 1000');
12 // }
13 const userlogin=true
14 const debitcard=true
15 const loginFromGoogle=true
16 const loginfromemail=false
17
18 if(userlogin&&debitcard&&loginFromGoogle){
19   console.log("All And Function True")
20 }
21 else if(userlogin&&debitcard&&loginfromemail){
22   console.log("due to true and false use in and so not run")
23 }
24 else if(userlogin &&debitcard&&loginfromemail||loginFromGoogle){
25   console.log("All And Or Function Use Successfully")
26 }
27 }else if(userlogin|| loginfromemail){
28   console.log("Or Function Use")
29 }
```

Codespaces: laughing system main\* 11:01 0 0 0 13 3 Share Code Link Generate Commit Message Comment Code Generate Repo Blackbox Search Terminal Output Blackbox 13 Spell Prettier

15°C Fog 08:04 03-12-2023

File Edit Selection View Go Run ... Javascript- [Codespaces: laughing system]

EXPLORER

OPEN EDITORS 1 unsaved

- JS 01\_if\_elsejs... U
- JS 02\_switchjs... U

JAVASCRIPT- [CODESPACE...]

- .devcontainer
- .vscode
- 01\_basic
- 02\_rnbbssuobject
- 03\_Set\_map
- 04\_array
- 05\_object
- 06\_function
- 07\_scope
- 08\_this\_arrow\_function
- 09\_control\_flow
- JS 01\_if\_elsejs U
- JS 02\_switchjs U
- README.md

OUTLINE

TIMELINE

DEBUG CONSOLE

Filter (e.g. text, !...)

09\_control\_flow > JS 02\_switchjs > ...

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```
1 // switch(key){
2 //   case value:
3 //     break;
4
5 //   default:
6 //     break;
7 // }
8 const month=3
9 switch(month){
10   case 1:
11     console.log("January")
12     break;
13   case 2:
14     console.log("February")
15     break;
16   case 3:
17     console.log("March")
18     break;
19   case 4:
20     console.log("april")
21     break;
22
23   default:
24     console.log("default match login")
25     break;
26 }
27
```

Codespaces: laughing system main\* 11:01 0 0 0 13 3 Share Code Link Generate Commit Message Comment Code Generate Repo Blackbox Search Terminal Output Blackbox Spell Prettier

15°C Fog 08:11 03-12-2023

File Edit Selection View Go Run ... Javascript- [Codespaces: laughing system]

EXPLORER

OPEN EDITORS 2 unsaved

- JS 01\_if\_elsejs... U
- JS 02\_switchjs... U
- JS 03\_truthy\_falsyjs... U

JAVASCRIPT- (CODESPACE...)

- .vscode
- 01\_basic
- 02\_nnbbsuobject
- 03\_Set\_map
- 04\_array
- 05\_object
- 06\_function
- 07\_scope
- 08\_this\_arrow\_function
- 09\_control\_flow
  - JS 01\_if\_elsejs U
  - JS 02\_switchjs U
  - JS 03\_truthy\_falsyjs U
- README.md

OUTLINE

TIMELINE

DEBUG CONSOLE

Filter (e.g. text, !...)

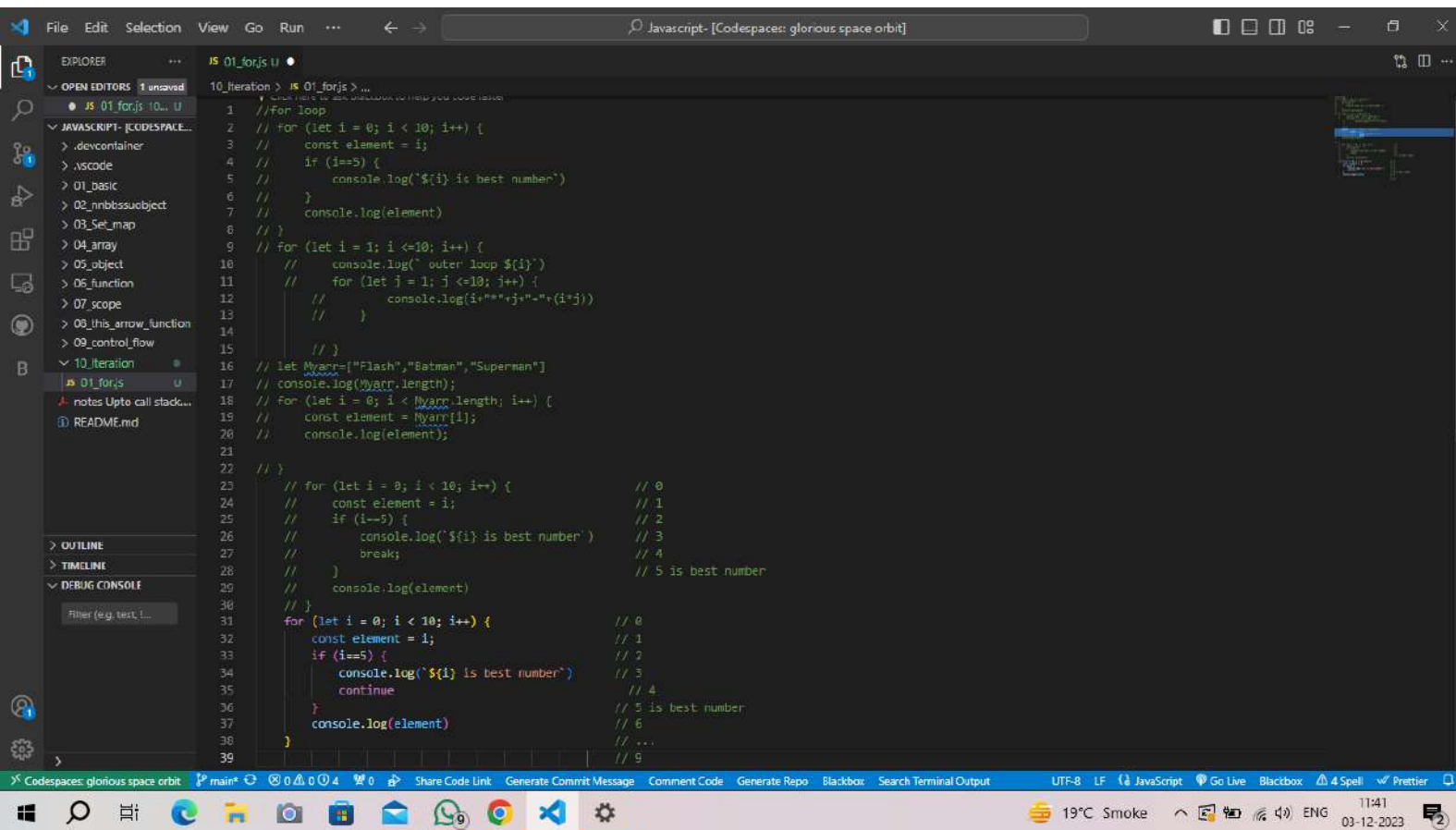
09\_control\_flow > JS 03\_truthy\_falsyjs > ...

Click here to ask Blackbox to help you code faster

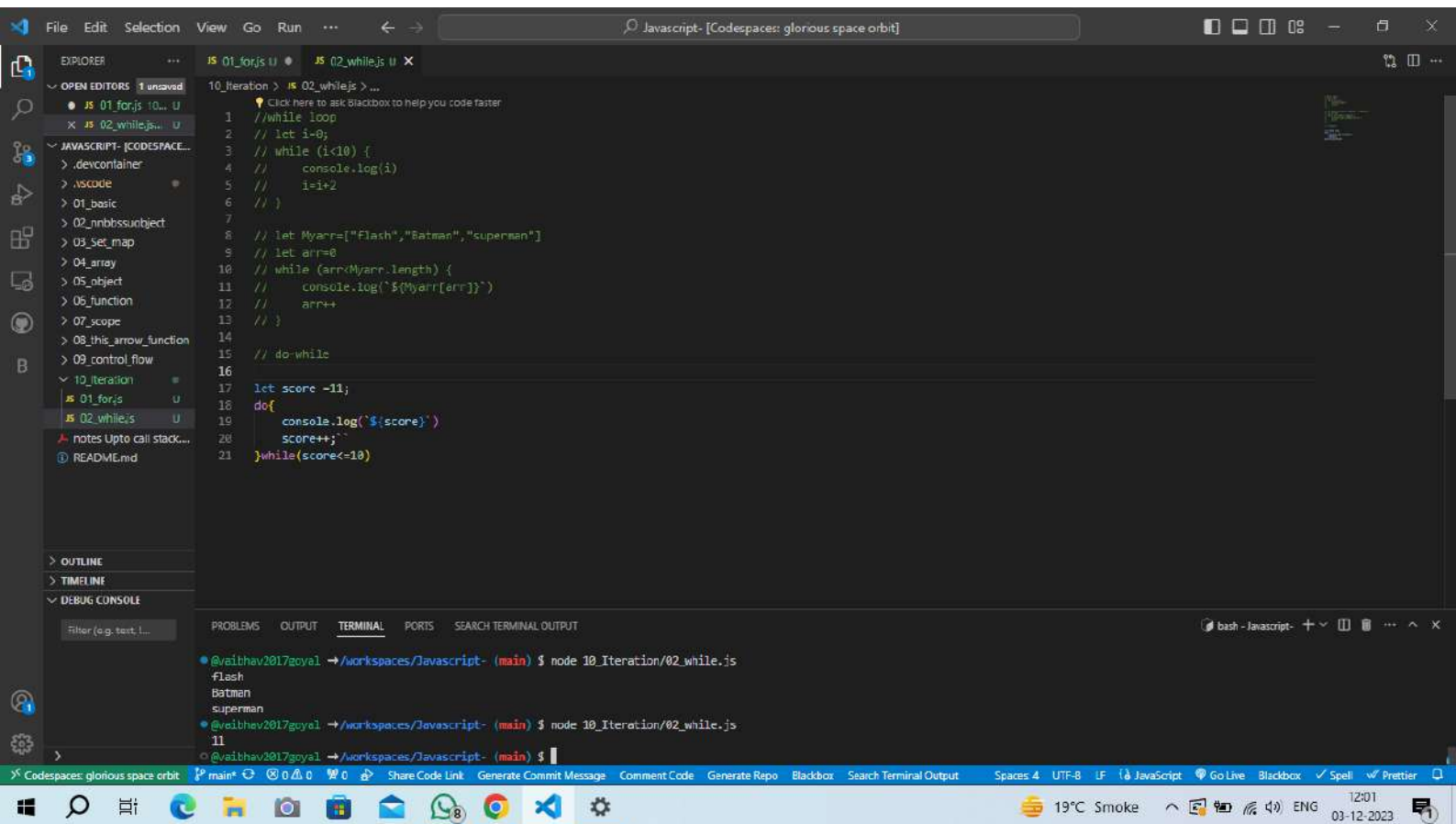
```
1 const userEmail = []
2
3 if (userEmail) {
4   console.log("Got user email");
5 } else {
6   console.log("Don't have user email");
7 }
8
9 // falsy values
10 // false, 0, -0, BigInt 0n, "", null, undefined, NaN
11
12 //truthy values
13 // "0", 'false', " ", [], {}, function(){}
14
15 // if (userEmail.length === 0) {
16 //   console.log("Array is empty");
17 // }
18
19 const emptyObj = {}
20
21 if (Object.keys(emptyObj).length === 0) {
22   console.log("Object is empty");
23 }
24
25 // Ternary Operator
26 // condition ? true : false
27 const iceTeaPrice = 100
28 iceTeaPrice <= 80 ? console.log("less than 80") : console.log("more than 80")
29
30 // val1 = 5 ?? 10
31 // val1 = null ?? 10
```

Codespaces: laughing system main\* 11:01 0 0 0 14 3 Share Code Link Generate Commit Message Comment Code Generate Repo Blackbox Search Terminal Output Blackbox 1 Spell Prettier

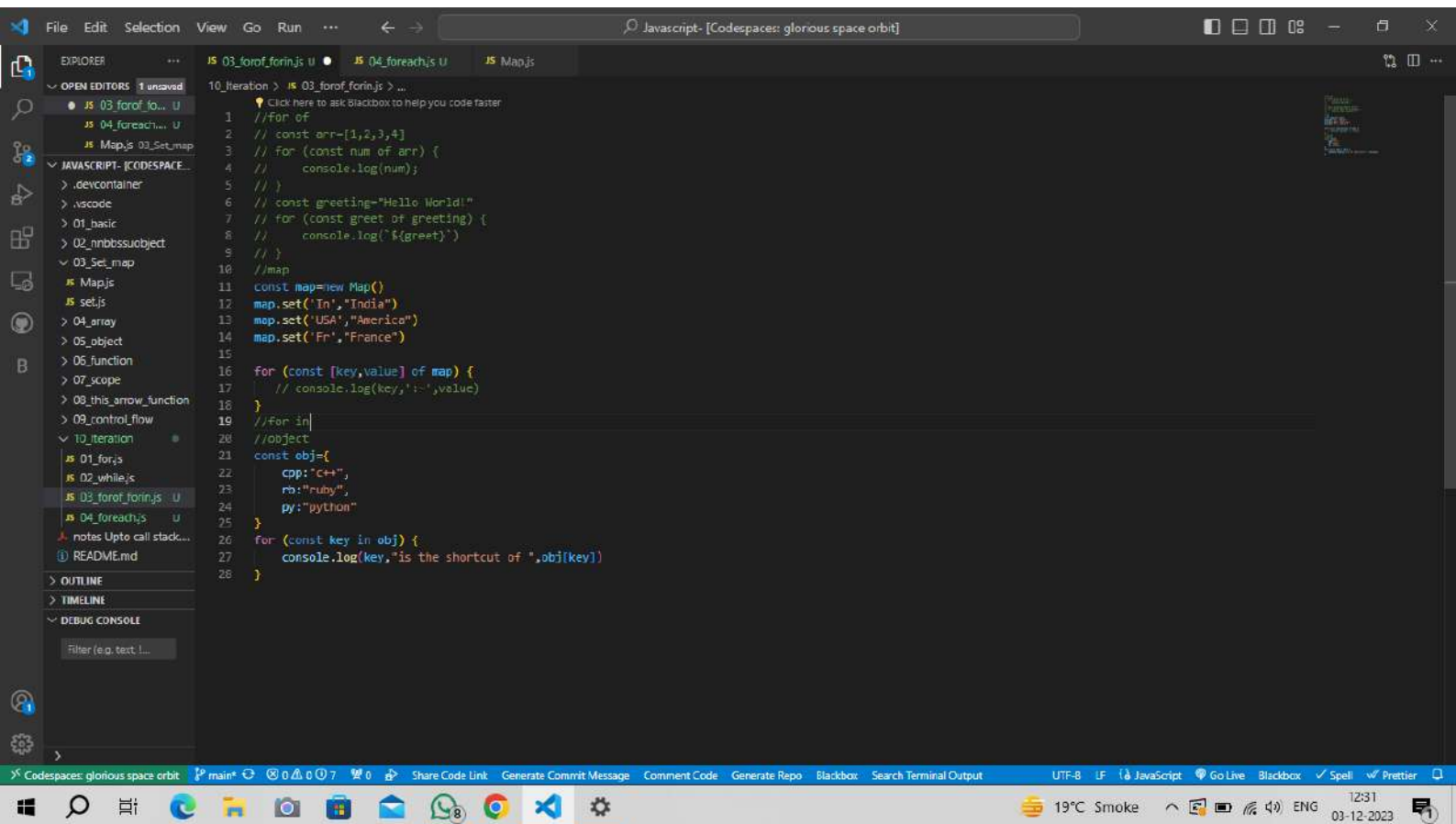
15°C Fog 08:18 03-12-2023











File Edit Selection View Go Run ... JavaScript- [Codespaces: glorious space orbit]

EXPLORER JS 03\_forof\_forin.js JS 04\_forEach.js M JS Map.js

OPEN EDITORS 1 unsaved JS 03\_forof\_forin.js JS 04\_forEach.js M JS Map.js 03\_Set\_map

JAVASCRIPT- [CODESPACE]

.devcontainer .vscode 01\_basic 02\_nmbssubject 03\_Set\_map JS Map.js JS set.js 04\_array 05\_object 06\_function 07\_scope 08\_this\_arrow\_function 09\_control\_flow 10\_iteration JS 01\_for.js JS 02\_while.js JS 03\_forof\_forin.js JS 04\_forEach.js M notes Upto call stack... README.md

OUTLINE

TIMELINE

DEBUG CONSOLE Filter (e.g. text: ...)

```
10_iteration > JS 04_forEach.js > ...
1 //for each
2 const coding=["c++","ruby","python","java"]
3 // coding.forEach(function (val){
4 //   console.log(val)
5 // });
6 coding.forEach((val,index,arr)->{
7   //console.log(val,index,arr)
8 })
9 //filter
10 // const numbers=[10,20,30,40]
11 // const mynums=numbers.filter((val)=>{
12 //   return val<25
13 // })
14 // console.log(mynums)
15
16 // map
17 const nums=[10,20,30,40];
18 const mymap=nums.map((val)->{
19   return val+10
20 })
21 //console.log(mymap)//[ 20, 30, 40, 50 ]
22
23
24 const newNms = nums
25   .map((num) => num * 10 )
26   .map( (num) => num + 1)
27   .filter( (num) => num >= 240)
28
29 //console.log(newNms);//[ 301, 401 ]
30
31 const myNms = [1, 2, 3]
32
33 // const myTotal = myNms.reduce(function (acc, currrval) {
34 //   console.log("acc: ${acc} and currrval: ${currrval}");
35 //   return acc + currrval
36 // }, 0)
37 const myTotal = myNms.reduce( (acc, curr) => acc+curr, 0)
38 console.log(myTotal)
```

Codespaces: glorious space orbit main 0 0 0 23 0 0 Share Code Link Generate Commit Message Comment Code Generate Repo Blackbox Search Terminal Output UTF-8 LF JavaScript Go Live Blackbox 16 Spell Prettier

19°C Smoke 13:02 03-12-2023

