

① HTML
② C.S.S.
③ Javascript
④ Angular (React.js).

Frontend.

⑤ Node.js.
⑥ Express.
⑦ Mongodb.
⑧ API's & Deployment

Backend.

PHP +

⑨ Javascript.

(1) Javascript can change HTML Content.

HTML Method is

getElementById().

document.getElementById("demo")
↑
id element content
inner HTML =
"Hello Javascript".

⑩ Javascript Statement.

```
let x, y, z;  
x = 5;  
y = 6;  
z = x + y;
```

|| Statement 1
|| Statement 2
|| S-3
|| S-4.

JavaScript Programs.

A Computer program is a list of "instruction" to be "executed" by a Computer.

In a programming language, these programming instruction are called Statements.

Statements) Composed of : Values, Operators, Expression, Keywords and Comments.

(*) Semicolons ;

it / Separates JavaScript Statements.

Add a ; Semicolon at end of each executable Statement.

Eg- let a,b,c;

a=5;

b=6;

c = a+b;

When Separated by Semicolons, multiple Statement on One Line are allowed.

a=5; b=6; c=a+b;

① Javascript Line Length and Line breaks.

if a Javascript Statement does not fit on One Line, the best place to break it is after an Operator -

Eg:-

```
document.getElementById("demo").innerHTML =  
    "Hello Dolly!"
```

② Javascript Code Blocks.

purpose of Code blocks is to define statements to be executed together.

inside curly brackets { ... }.

```
function myfunction () {
```

```
    document.getElementById("demo1").innerHTML =  
        "Hello."
```

```
    document.getElementById("demo2").innerHTML = "How are you?"
```

introduction to JS

① Javascript keywords.

var - Declares a Variable. (Augments)
let " " block Variable.
const " " block Constant. fixed Condition.
if " " make a block of Statements to be Condition.
Switch " " different cases.
for " " repeatedly execute in loop.
function. Declares a function.
return Exits a function. if no return
try. Implement error handling to a block
of Statement. (abend)

② Javascript Syntax

① var x;

let y;

Fixed Values

↓

Literals.

Variable Value.

switch case

Variable.

① Number

② String

② Var, let and.

Const.

↓

declare Variable.

② Operators.

- ① (+ - * /). arithmetic operators to compute values.
- ② assignment operator (=) to assign value

③ Javascript Expression.

Eg:- let x=5.0*10³

(console.log(x))

④ Javascript Comments.

//
/* */

⑤ Case Sensitive.

last Name & lastname are two different Variable.

⑥ Camel Case.

Hyphens first-name, last-name.

Underscore - first-name.

Upper Camel: FirstName, LastName.

Lower CamelCase: firstname, lastname.

②. Javascript Variables

Variables are Containers for Storing Data.

It declared in 4 ways.

Using Var. Value can be: \Rightarrow Globally.
Using let. Value can be changed. \Rightarrow Particular block.

Using const. \Rightarrow Value Cannot be changed.

Let, var () scope will start at declaration and end at end of block.

Let have Block Scope.

Let must be Declared before use.

let cannot be Redeclared in the Same Scope.

Hoisted = Use it before and declare a variable afterward.

Binds this to call a object from different function.

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

f(); // undefined
var obj = {
 name: "John"
};
obj.f(); // John

Eg:- function greet() {
 console.log(`Hello, \${this.name}`);
}

const person = {
 name: 'John Doe',
 greet: greet.bind(this)
};
person.greet();

In this example, the greet() function is bound to the person object - This means that greet() function is called, the this keyword will refer to the person object.

∴ console.log() Statement will log

'Hello, John Doe'

	Scope	Re-declare	Reassign	Hoisted	Bind this
Var	No	Yes.	Yes	Yes	Yes
let	Yes	No	Yes	No	No
Const.	Yes.	No.	No.	No	No

Javascript Const Rule and consequences

`Const` Cannot be Re-declared

Re-declaring an existing `Var` or `let`. Variable to `Const`, in the same scope is not allowed.

`Var x=2;` If Allowed. → A. `let` .
`Const x=2;` If Not. A

§

`let x=2;` A `sequent stack` (top)

`Const x=2;` N.A.

↳

• try do and .①

• break nA .②

• start Ab .③

§.

`Const x=2;` → Allowed.

`Const x=2;` → N.A.

↳

i di = dtpred tel

i2 f = tpred tel

Hoisted is not allowed in `Const`.

• const

i "function" = const tel

i "variable" = const tel

i "object" tel

i "list" tel

i "set" tel

Javascript has 8 Datatypes.

①. String.

②. Number.

③. BigInt.

4. Boolean.

5. Undefined.

6. Null.

7. Symbol.

8. Object:

Object Datatypes: A is extensible
A or is extensible

①. An object.

②. An Array.

③. A date.

let length = 16;

let weight = 7.5;

Number if Extensible

String.

let color = "yellow";

let lastName = "Johnson";

Boolean

let x = true;

let y = false;

11 object.

Object: bus number 262) with owner of "envirobus" and
first name? "John" (see p.

Conest person = { first Name: "John",
last Name: "Doe" }.

11 Array object .

|| Array object .
|| { } , [] , {} , [] Jquery object

```
const Cars = ["Saab", "Volvo", "BMW"];
```

11 Date object.

11 Date object:
can be used to give date in several ways like
Date("2022-03-25").

Const date = new Date("2022-03-25").j.

Undefined: A Variable without a Value has the Value undefined. The type is also undefined.

- | | |
|------------------------------------|--|
| (1) $\text{H}_2\text{O}(\text{g})$ | $\text{t}_{\text{dpf}} = \text{emission}$ |
| (2) $\text{SO}_2(\text{g})$ | $\text{OOL} = \text{labom - res}$ |
| (3) $\text{SO}_2(\text{g})$ | $\text{Sulfos} = \text{SO}_2(\text{g}) - \text{res}$ |

④ Javascript functions.

functions :- To reuse the code again and again, function method is used.

Javascript Syntax.

function name(P1, P2, P3){}

function name(P1, P2, P3){
 // body
 return "Hello world";
}

⑤ Variable declare in Javascript becomes local to the function.

⑥ Javascript Objects

Object.

(car,

Properties.

car.name = fiat.

car.model = 500.

car.color = white.

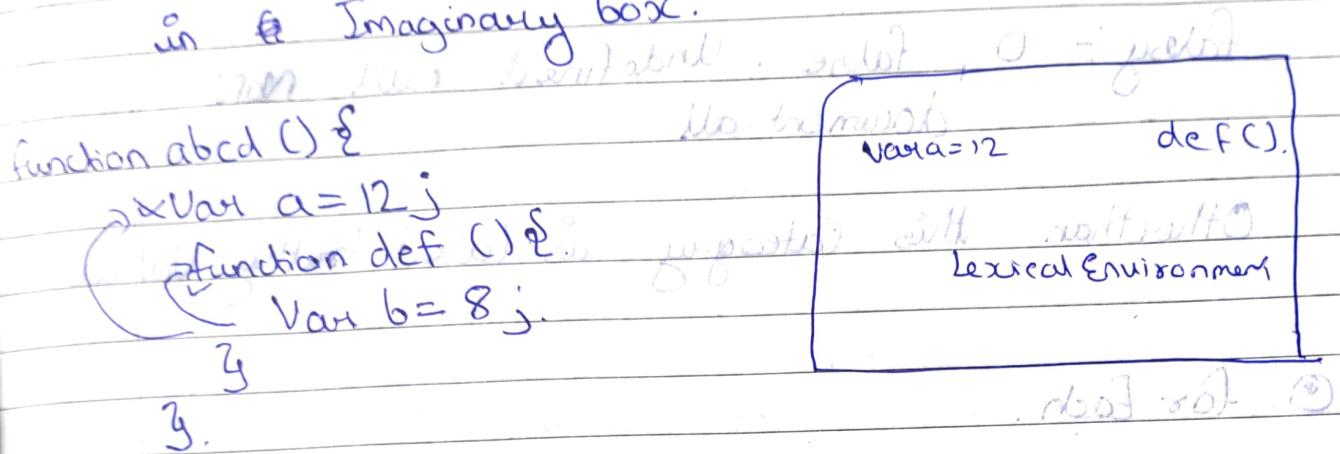
Methods.

car.start().

car.drive().

car.brake().

- ① Execution Context: function "inside things".
 access in Variable Context, Lexical Environment
 in an Imaginary box.



- ② Lexical Environment: It means which Variable have access to their function's parent Value but not children Value. who can access it shows -

a (ab) no(but) abot not .

(a+b) not share

- ③ How to Copy reference Value. . .

Var a = [12, 13, 14, 15].

Var b = a; a.pop() good b.pop()

it means if we change in b it will automatically change to a.

"bivish" : error

i.e. : good

"good" : good

but if

Var a = [12, 13, 14, 15].

Var b = [... a] a.pop() not

i.e. b.pop(). not pop(a)

it means if we change in b it not will change to a.

① Truthy and Falsy

falsy: 0, false, undefined, null, NaN

Other than this category is called truthy values.

② for Each.

Ex: `for (let val of arr) { console.log(val); }`

Output: Varma = [1, 2, 23, 34, 34, 4, 23, 4, 3]

a. for Each (function (val))

`console.log(val + 2);`

Output: Varma = [3, 4, 25, 36, 36, 5, 25, 5, 4]

③ for in

Objects par loop karne k liye hota hai for in.

Var obj = { name: "Arvind", age: 21, city: "Vapi" }

name: "Arvind"

age: 21

city: "Vapi"

for (key in obj) { console.log(key); }

Output: name, age, city

for (key in obj) { console.log(key, obj[key]); }

Output: name: Arvind, age: 21, city: Vapi

④ Call back function: will discuss & explain

```
function SetTimeOut (function () {  
    console.log("2 Second baad chala");  
}, 2000);
```

When code run after sometime till condition satisfied is called callback function
It is like this object is created to

⑤ first class fun.: bottom line coding

```
e.g. - function abcd(a){  
    b=c=a();  
    return b;  
}  
abcd (function () {  
    console.log("hello");  
})
```

abcd (function () {
 console.log("hello");
})

We can use a function as a value is called first class function.

⑥ How to delete object:

Use a = {}.

name: "Arnold",

age: 21

{}.

delete a.age;.