**What is java script :**

It is a object based programming language use to convert into static page into dynamic page

**Ways of writing the java script:**

There are two ways 1.internal way 2.external way

1.the java script code is written in the same page as the HTML page

2.the java script code is written in the separate page and then it is connected to the HTML page using the script src

script src is used to link the external java script to the HTML code

**The variables in js:**

* Used to store data/values(data-types)
* Dynamic in nature (no need of defining any type of the data type )

**There are 3-types:**

Var, let , const

**Data types:**

There are two types of data types in js

**primitive :**

**It can store single values**

Number,string ,boolean,undefined,null,bigint,symbol

1. String :- sequence of characters stored within double quotes / single quotes/ backticks(templateliterals ``)

ex: var username = "Mahesh Babu";

let title = 'super start';

char networth = `120cr`;

typeof(); method used to define the type of data

2. Boolean :- true / false.

Re-declaration is not allowed.

3. number:- integers, float, decimal, exponential etx...

-2^53-1 to +2^53-1 bigInt range

ex: let num = 10;

let num2 = 12.233;

let num3 = 10e4;

4. undefined:- variable is declared but value is not defining/initialised.

let a;

console.log(a);

5. null :- null is a abscence of object / empty space

but the datatype of null is still an object (bug)

what is the return type of null ? A: object

**Non-primitive:**

**It can store multiple values**

Class ,functions,objects,map,set,array

**concatenation:**

**Ex:** console.log(10+"10");

console.log(10+"hi");

console.log("hi"+10+40);

**bodamas rule:**

**Ex:**

console.log("hi"+(10+40));

**Type casting:**

**Ex:**

console.log("10"-5);//typecasting

console.log(10\*"5");

Typecasting can be done for all the operations expect the additions

**Increment:**

Used for the increasing the values.

If the console.log(++a);

Means that it add the one to the a value

If the console.log(a++);

Means that it will first give the a value and store the increased value in the memory .

**Decrement:**

Used to the decrease the values.

Similarity to the increment but for the decreasing the values .

**Arithmatic :-** Which performs oeprations such as

- Additon (concatenation)

- Subtraction

- multiplication

- Division

- modulus

- exponential

**Assignment:**

Use for the all the operations

Ex:

let c = 10;

c += 5;

console.log(c);

let d = 10;

d -= 5;

console.log(d);

let e = 10;

e \*= 5;

console.log(e);

let f = 10;

f /= 5;

console.log(f);

let g = 10;

g %= 5;

console.log(g);

let h = 10;

h \*\*= 5;

console.log(h);

**Comparison (Relation operator) :**

Used for the comparing the two values either the value is true or false.

Ex:

console.log(10 > 5);

**Logical operator:**

If the one operator is true and the other is false the the output is true in ||.

If the both are true the the output is true in &&.

If the operator is true and the write as the !operator then the output is the false in !.

Ex:

let ac = true;

let ad = true;

console.log(ac && ad);

let ag = true;

let ah = false;

console.log(ag || ah);

let am = true;

let an = false;

console.log(!am);

**If-else:**

If is true and the else is false.

**If-else if :**

Same as the if-else.

**Switch case:**

We use the cases in it and find the output.

**Loops:**

There are different types in loops

For loop :

The min iteration is zero.

While loop

Functions :

It is the blocks in java script

It means the block of code used to excite specific task

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**Types of scopes:**

Global : it means that if we declare the function in outside and we can use it inside the function

Local :it means that if the function is declare out side it cannot be defined inside the function

Block : we define the function inside the flower bracks