Basics of Javascript

**Variables: [var, let, const]**

Variables are containers that stores data.

* Var is function scoped; it is accessible throughout the function in which its declared
* let & const are only accessible within the block

Syntax: Var varname = val;

Rules: must begin with letter, $ or underscore

case sensitive

**Conditional statements:**

A conditional statement is a statement that executes a block of code only if a specific condition is true, and optionally executes another block if it’s false.

* If else statements.

Syntax: if(cond){

}

else if(cond){

}

else{

}

* Switchcase

Syntax: switch(expression)

{

Case val:…..:

Break:

Case val:…:

Break;

Case val:…;

Break;

:

Default:…;

}

**Loops**

A loop statement is used to repeat a block of code multiple times until a certain condition is false

* For loop:

Syntax: for( initialization; termination; updation){

}

* While loop:

Syntax: while(cond){

}

* Do while loop:

Syntax: do{

} while(cond);

**Operators:**

* Unary operators

Increment: post-fix: a++

Pre-fix: ++a

decrement: post-fix: a--

pre-fix: --a

* Arithmetic operators

Addition(+), subtraction(-), multiply(\*), divide(/), modulus(%), exponent(\*\*)

* Relational operators

Greater than(<), lesser than(>), greater than or equal to(< =), lesser than or equal to(> =), equal to(= =), not equal to(! =)

* Bitwise operator

& - bitwise and. If both bits are 1 then it is 1 or else 0

| - bitwise or. Returns 1 if any of them is 1

^ - bitwise xor, it returns 1if both the values are different else 0

~ - bitwise not, changes 1 to 0, vise-versa

* Logical operator:

AND- If both bits are true then it is true or else false

OR- Returns true if any of them is true

XOR- it returns true if both the values are different else false

NOT- changes true to false and vise-versa

**Data Types:**

Javascript is a dynamic language

* Primitive data Type:

1. Number- integers and floating point numbers
2. Strings- sequence of charcters
3. Boolean- true or false
4. Undefined- variable is declared but there is no value

* Non primitive data types [Objects]:

Collection of key value pairs

Eg: var obj={

    name: "poojitha",

  roll\_no: 40,

    marks: 84,

};

console.log (obj.name + " is passed" );

prototype: JS objects have a special property called prototype where one object function can be used for another object.

Syntax: \_\_proto\_\_

**Arrays:**

An array is a special variable used to store multiple values in a single variable, ordered by index (starting from 0).

* Push(): add new elements at the end
* Pop(): delete elements from the end
* tostring(): converts array to string
* concat(): Joins multiple arrays and returns the result
* unshift(): add new elements at the end
* shift(): delete elements from the start
* slice(): returns a piece of array
* splice(): change original array (add, remove, replace)

syntax: splice(startidx, delcount, newelements)

* map(): similar to for each statement but map returns updated array.

**Functions:**

Block of code that performs a specific task, can be invoked whenever needed.

Syntax for function definition:

Function functionname(param1, param2,..){

}

Syntax for function call:

Funtionname(param1, param2,…);

Function parameter are local variables. They only exist within the block

**Arrow Functions:**

Compact way of writing a function. It stores function definition

Syntax: const functionname=(param1, param2,..) => {….}

**For Each loop in arrays**

arr.forEach(callback function)

**callback function**: It is a function to execute for each element in the array. A callback function is passed as an argument to another function.