**Javascript**

**Link a HTML file to JS file**

<body>

    <script src="first.js"></script>

</body>

**console**

console.log("Nimra Naeem");

**variables in JS**

Name = "Nimra";

age= 20;

salary= null;

y = undefined;

i = true;

u = false;

console.log(u);

objects

const Student = {

    Name : "Nimra ",

    Age : 20,

    CGPA : 3.13,

    isPass : true,

};

console.log(Student.CGPA);

change a value in objects

Student.Age = Student.Age +1 ;

console.log(Student.Age);

Student.Name = "Maliha";

console.log(Student.Name);

operators

let a = 5;

let b = 3;

console.log("a + b = " , a+b );

console.log("a - b = " , a-b );

console.log("a / b = " , a/b );

console.log("a \* b = " , a\*b );

console.log("a \*\* b = " , a\*\*b );

console.log("a % b = " , a%b );

console.log("a++ = " , a++ );

console.log("a-- = " , a-- );

a += 1;

console.log("a = " , a );

a -= 1;

console.log("a = " , a );

a /= 1;

console.log("a = " , a );

a \*= 1;

console.log("a = " , a );

a \*\*= 1;

console.log("a = " , a );

console.log("a == b = " , a==b );

console.log("a === b = " , a===b );

console.log("a != b = " , a!=b );

console.log("a !== b = " , a!==b );

let con1 = a > b;

let con2 = a == 6;

console.log("con1 && con2" , con1 && con2 );

console.log("con1 !! con2" , con1 || con2 );

console.log("!(con2)" , !(con2) );

practice question

let n = prompt("Enter a number");

console.log("n = " , n);

if (n % 5 == 0){

    console.log(n , "is multiple of 5");

}

else {

    console.log(n , "is not a multiple of 5");

}

let score = prompt("Enter the score of student");

console.log("score = " , score);

if (score < 100 && score >= 80){

    console.log( "Grade is A ");

}

else if (score < 80 && score >= 70){

    console.log("Grade is B");

}

else if (score < 70 && score >= 60){

    console.log("Grade is C");

}

else if (score < 60 && score >= 50){

    console.log("Grade is D");

}

else{

    console.log("Grade is F");

}

Loop

for (let i=0 ; i<1000 ; i++){

    console.log("Nimra")

}

let i = 1;

while (i < 5){

    console.log(i);

    i++;

}

let i = 1;

do{

    console.log(i);

    i++;

}

while (i <= 5);

to write the each character of string or an array

let str="Nimra"

for (let i of str){

    console.log(i);

}

Loop for an object

const Student = {

    Name : "Nimra ",

    Age : 20,

    CGPA : 3.13,

    isPass : true,

};

for (let i in Student){

    console.log(i , " = ", Student[i]);

}

Practice question

All even numbers less than 100

for (let i=1 ; i<= 100 ; i++){

    if (i%2==0)

    console.log("n = " , i)

}

let n= 12;

num = prompt("Enter a number")

while(n != num ){

}

console.log("Congratulations you enter a number.");

Guess a number Game!

let n= 12;

num = prompt("Enter a number")

while(num != n ){

    num = prompt("You write wrong number. Enter again! ");

}

console.log("Congratulations you enter a number.");

String

let str="I am nimra."

console.log(str);

console.log(str.length);

console.log(str[6]);

let obj = {

    item: "pen",

    price : 10 ,

}

let output = `The price of ${obj.item} is ${obj.price}`;

console.log(output);

. For a given array with prices of 5 items -> [250, 645, 300, 900, 50]. All items have an offer of 10% OFF on them. Change the array to store final price after applying offer.

let price = [250 , 645 , 300 , 900 , 50];

let off = 0;

for (let val of price){

     off = val/ 10 ;

     val = val - off ;

     console.log(val);

}

Array methods:

let price = [250 , 645 , 300 , 900 , 50];

price.push(390);

console.log(price);

let price = [250 , 645 , 300 , 900 , 50];

price.pop();

console.log(price);

let name = ["Nimra" , "Maliha" , "Sakha"];

console.log(name.toString());

let name = ["Nimra" , "Maliha" , "Sakha"];

let marks = [45 , 66 , 34];

console.log(name.concat(marks));

let name = ["Nimra" , "Maliha" , "Sakha"];

name.unshift("Sana");

console.log(name);

let name = ["Nimra" , "Maliha" , "Sakha"];

name.shift();

console.log(name);

let Name = ["Nimra" , "Maliha" , "Sakha"];

New = Name.slice(0 , 1);

console.log(New);

let Name = ["Nimra" , "Maliha" , "Sakha"];

Name.splice(2 , 1 , "Hajra" , "Hira");

console.log(Name);

let company = ["Bloomberg" , "Microsoft" , "Uber" , "Google" , "IBM" , "Netflix"]

console.log(company.shift());

console.log(company.splice(2 , 1 , "Ola"));

console.log(company.push("Amazon"));

Functions:

function sum( a , b){

     console.log(a + b)

}

sum(2 , 5);

const arrowSum = (a , b) => {

     return a+b;

}

Practice

function Vowel (str) {

     let count = 0;

     for (const char of str){

          if (char === "a" || char === "e" || char === "i" || char === "o"  || char === "u"){

               count++ ;

          }

     }

     return count;

}

const arrowVowel = (str) => {

     let count = 0;

     for (const char of str){

          if (char === "a" || char === "e" || char === "i" || char === "o"  || char === "u"){

               count++ ;

          }

     }

     return count;

}

forEach (higher order function):

let num = [1 ,2 , 3 , 4];

num.forEach((num) => {

     console.log(num\*num) ;

}

);

let num = [1 ,2 , 3 , 4];

num.forEach((num) => {

     console.log(num\*num) ;

}

);

Practice question:

let marks = [87 , 93 , 64 , 99 , 86];

let greatest = marks.filter((val)=> {

     return val > 90;

}

)

Practice question:

let n = prompt("Enter a number");

let a = [];

for (i=1 ; i <= n ; i++ )  {

     a[i-1] = i ;

}

console.log(a);

const sum = a.reduce((prev , curr ) => {

     return prev + curr;

})

console.log(sum);

const product = a.reduce((prev , curr ) => {

     return prev \* curr;

})

console.log(product);