**JavaScript Control OverFLow:**

* If else

Iif (hour >= 6 && hour < 12) {

    console.log('Good morning');

}

else if (hour >= 12 && hour < 18) {

    console.log ('Good afternoon');

}

else if (hour >= 18 && hour <25) {

    console.log ('Good Evening');

}

else {

    console.log ('invalid');

}

* Switch Case

let role = 'Pro';

switch (role) {

    case 'guest':

        console.log('Guest User');

        break;

    case 'Modrate':

        console.log('Modrate User');

        break;

    case  'Pro':

        console.log ('Pro user');

        break;

    default:

        console.log('unknown User');

}

* For Loop

For ( initialization ; Condition ; increment expression)

for ( i = 0 ; i < 5 ; i++)

    console.log('Hello world' , i);

//

for ( i = 1 ; i <= 5 ; i++)

    if (i % 2 !==0)

    console.log (i);

* While Loop

While (condition)

 let i = 0 ;

  while (i <=5)

  {

    if ( i %2  !== 0)

        console.log (i);

    i++;

}

* Do While Loop

Do while loop run atleast once if the condition is wrong

let i =0;

do {

    if (i %2 !==0)

        console.log(i);

    i++;

}

while (i<=5);

* Infinite loop

This loop well never stop and crash you system

let i = 0 ;

while (i < 5 ) {

    console.log(i);

    // i++ you forget i++

}

for (i = 0 ; i < 5 ; ) // you forget i++

let x = 0;

do {

    // i++; you forget i++ this well crash your browser

}while(x < 5);

* For in loop
* const person = {
* Name : 'elsa',
* Age : 5
* };
* for (let key in person)
* console.log (key, person[key]);
* const color = ['red', 'blue', 'black'];
* for (let index in color)
* console.log(index, color[index]);
* For of loop

   const names = ['amna', 'rio', 'laiba'];

     for (let Name of names)

        console.log (Name);

* Continue and break statement

let i = 0;

while (i <= 10)

{

    // if (i === 5) break;

    if (i % 2 === 0 ){

        i++;

        continue;

    }

    console.log (i);

    i++;

}

* Exercise 1 max of two numbers

// my code

function maximum (a = 2, b = 2) {

    if (a > b) {

        console.log ( "a is " , a , " which is maximum ");

    }

    else if (a === b) {

        console.log (" both numbers are euqals");

    }

    else {

        console.log ("b is ", b , " which is maximum");

    }

}

maximum ();

// mosh code

let number = max ( 1 , 3)

console.log (number);

function max (a , b) {

    return (a > b ) ? a : b ;

}

* Exercise 2 Land scape or portrait

//   land scape of two numbers .

// if width is grater it returns true if height is greater than returns false

// my code

let img = islandscape (500 , 400) ;

console.log(img);

function islandscape ( width , height) {

    if (width > height) {

        return true;

    }

    else return false;

}

// mosh code

console.log (landscape (600 , 800));

function landscape (width , height) {

    return (width > height);

}

* Exercise 3 FizzBuzz game

  const input = fizzbuzz (true)

    console.log (input);

function fizzbuzz (number) {

    // if not a number

    if ( typeof number !== 'number') {

        return 'not a number';

    }

    // divisible by 3

    else if (number % 3 === 0 && number % 5 !==0)

    {

        return 'Fizz';

    }

    // divisible by 5

    else if (number % 5 === 0 && number % 3 !==0)

    {

        return 'Buzz';

    }

    // divisible by both

    else if (number % 3 === 0 && number % 5 === 0) {

        return 'fizzBuzz';

    }

    // not divisible by 3 or 5

    else if (number % 3 !== 0 && number % 5 !== 0)

    {

        return (number);

    }

}

fizzbuzz ();

* Exercise 4 Demerit Points

const speed = checkSpeed (160) ;

function checkSpeed (speed) {

    const speedLimit = 70;

    const KmPerPoints = 5;

    // speed in limit

    if (speed < speedLimit + KmPerPoints ) {

         console.log("ok");

         return ;

    }

        const points = Math.floor ((speed - speedLimit) / KmPerPoints);

        if (points >= 12)

            console.log ('License suspended');

        else

        console.log ('points' , points);

}

* Exercise 5 Even and Odd Numbres

showNumbers (10);

  function showNumbers (limit) {

    for (let i = 0 ; i  <= limit ; i++ )

    {

    //     if (i % 2 === 0)

    //         console.log (i, "even");

    // else

    // console.log ( i, "odd");

    // 2nd method

    const message = (i %  2 === 0 ) ? 'EVEN' : 'ODD'

    console.log(i , message)

    }

  }

Exercise 6 count truthy values

const array = [undefined , null , '' , false , 0 , NaN , 1 , 2  ]

console.log (countTruthy(array))

function countTruthy (array) {

     let count = 0 ;

     for (let value of array)

        if (value)

            count ++;

        return count;

}

* Exercise 7 String Properties

   // show only string

   const movie = {

    name : 'abc',

    releaseYear : 2012 ,

    rating : 4.2 ,

    director : 'xyz'

   };

   showProperties(movie);

   function showProperties (obj) {

      for (let key in obj)

        if (typeof obj[key] == 'string')

            console.log (key , obj[key]);

   }

* Exercise 8 , Sum of Multiples of 3 and 5

    // sum of multiple of 8

console.log(sum(10))

    function sum (limit) {

        let sum = 0;

        for (let i = 0 ; i <= limit ; i++ )

            if (i % 3 === 0 || i % 5 === 0)

                sum += i;

        return sum;

    }

* Exercise 9 Grade

const marks = [50 , 70 , 60];

console.log(calculateGrade(marks));

 function calculateGrade (marks) {

    const average = calculateAverage(marks);

    if (average < 60) return 'F';

    if (average < 70) return 'D';

    if (average < 80) return 'C';

    if (average < 90) return 'B';

    return 'A';

 }

 function calculateAverage (array) {

    let sum = 0;

    for (let value of array)

        sum += value;

    return sum / array.length;

 }

* Exercise 10 Stars

  showStars (1);

  function showStars (rows) {

    for (let i = 0 ; i <= rows; i++)

    {

        let str = "\*";

        console.log(str.repeat(i));

    }

  }

* Exercise 11 Prime Numbrs

   showPrime(10);

   function showPrime (limit) {

    for (let number = 0 ; number <= limit ; number++)

    if (isPime(number)) console.log (number);

   }

   function isPime (number) {

    for (let factor = 2 ; factor < number ; factor ++)

        if (number % factor === 0)

            return false ;

    return true ;

   }