Coding Problems

**1)Remove duplicate value in array :**

let array=[1,2,2,3,4,5,4,2]

function removeDuplicate(array) {

let result = [];

for(let i =0; i < array.length; i++) {

if(result.indexOf(array[i]) ===-1) {

result.push(array[i])

}

}

return result;

}

console.log(removeDuplicate(array));

**3) Reversing letters and words :**

let a = prompt("Type a string ")

let b =a.split("").reverse().join("")

console.log(b)

**4) Checking Whether a string contains only digits :**

let string= Prompt(“Type a string”)

function onlyDigits(s) {

for (let i = s.length - 1; i >= 0; i--)

{

const d = s.charCodeAt(i);

if (d < 48 || d > 57)

return false

}

return true

}

console.log(onlyDigits(string));

**5) Counting Vowels and Consonants:**

function vowelsAndConsonants(str) {

let vowels = 0;

let consonants = 0;

str = str.toLowerCase();

for (let i = 0; i < str.length; i++) {

let y = str[i];

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

vowels++;

} else if (y >= "a" && y <= "z") {

consonants++;

}

}

return { vowels: vowels, consonants: consonants };

}

let result = vowelsAndConsonants("Ray sir class js ");

console.log(result);

**6) Counting occurrences of a certain character:**

let a = prompt(“Enter a string “)

let b = prompt(“counting occurrences of the letter”)

count = 0;

for(i=0;i<a.length;i++)

{

if(a.charAt(i) === b)

{

count++;

}

}

**8) Removing white spaces from a string :**

let str = prompt(“Enter a string sentence ”)

str = str.split(" ").join("");

console.log(str);

**9) Joining multiple strings with a delimiter :**

const strings = ["one", "two", "three"];

const symbol = "+ ";

const result = strings.join(symbol);

console.log(result);

**11) Check weather a string is a palindrome or not :**

let str=prompt("Enter the string")

function palindrome(str){

let Left=0;

let Right=str.length-1;

while(Left<Right)

{

if(str[Left]!==str[Right]){

return false;

}

Left++;

Right--;

}

return true;

}

console.log(palindrome(str));

**15) Sorting an array of strings by length:**

const strings = [

"one ",

"two",

"three",

"four",

"hundred ",

"thousand",

];

strings.sort((a, b) => a.length - b.length);

console.log(strings);

Mathematical Problems **1a) Basic arithmetic operation**

let m = prompt("Enter a Value");

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

let multi = m\*n ;

console.log(multi);

let div = multi/2;

console.log(parseInt(div));

let res = div%7;

console.log(parseInt(res));

**1b) Statistics**

function sum(N) {

let ans = 0;

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

if (i % 2 == 0 || i % 7 == 0) {

ans = and + i;

}

}

return ans;

}

let N =prompt("enter the value");

console.log(sum(N));

**1c) Even or Odd Number**

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

if(a % 2 == 0) {

console.log("The number is even.");

}

else {

console.log("The number is odd.");

}

**4) Prime number**

function getPrimesBtw(n) {

n = prompt("enter the no")

const primes = [];

for (let i = 2; i <= n; i++) {

let Prime = true;

for (let j = 2; j < i; j++) {

if (i % j === 0) {

Prime = false;

break;

}

}

if (Prime) {

primes.push(i);

}

}

return primes;

}

console.log(getPrimesBtw(n));

**5) Prime number twin**

function isPrime(num) {

  if (num <= 1) return false;

  for (let i = 2; i <= Math.sqrt(num); i++) {

    if (num % i === 0) return false;

  }

  return true;

}

function primePairs(limit) {

  limit = prompt("enter the number ")

  const pairs = [];

  for (let i = 2; i <= limit; i++) {

    for (let j = i + 1; j <= limit; j++) {

      if (isPrime(i) && isPrime(j) && j - i === 2) {

        pairs.push([i, j]);

      }

    }

  }

  return pairs;

}

console.log(primePairs(limit));

3)Perfect number

function Perfect(number) {

    let sum = 0;

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

      if (number % i === 0) {

        sum = sum+i;

      }

    }

    return sum === number;

  }

  function findPerfectNumbers(maxNumber) {

    const perfectNumbers = [];

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

      if (Perfect(i)) {

        perfectNumbers.push(i);

      }

    }

    return perfectNumbers;

  }

  const maxNumber = prompt("Enther the max number ");

  const perfectNumbers = findPerfectNumbers(maxNumber);

  console.log(`Perfect numbers between 1 and ${maxNumber}: ${perfectNumbers}`);

**8a) Computation of a2 + b2 = c2**

const a = prompt("Enter first number ");

const b = prompt("Enter second number ");

const c = Math.sqrt(Math.pow(a, 2) + Math.pow(b, 2));

console.log(c);

**8b) Computation of a2 + b2 = c2 + d 2**

const a = prompt("Enter first number ");

const b = prompt("Enter second number ");

const c = Math.sqrt((Math.pow(a, 2) + Math.pow(b, 2))/2 + Math.sqrt(2)\*Math.sqrt(Math.pow(a, 2)\*Math.pow(b, 2))/2);

const d = Math.sqrt((Math.pow(a, 2) + Math.pow(b, 2))/2 - Math.sqrt(2)\*Math.sqrt(Math.pow(a, 2)\*Math.pow(b, 2))/2);

console.log(c, d);

**9) Armstrong Numbers within three-digit numbers**

function ArmstrongNumber(number) {

const numberString = number.toString();

const numDigits = numberString.length;

let sum = 0;

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

const digit = parseInt(numberString[i]);

sum = sum + Math.pow(digit, numDigits);

}

return sum === number;

}

function findArmstrongNumbers(n) {

const armstrongNumbers = [];

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

if (ArmstrongNumber(i)) {

armstrongNumbers.push(i);

}

}

return armstrongNumbers;

}

console.log(findArmstrongNumbers(999));

**12) Prime Factorization**

function primeFactorization(n) {

    const factors = [];

    let divisor = 2;

    while (n >= 2) {

      if (n % divisor === 0) {

        factors.push(divisor);

        n = n / divisor;

      } else {

        divisor++;

      }

    }

    return factors;

  }

  let n = prompt("Enter a number")

  console.log(primeFactorization(n));