**Javascript Assignment 3**

1. Using for loops, write a Javascript program to output the following pattern -

1

2 3

4 5 6

7 8 9 10

  var num =1;

    var str ="";

    var k = 1;

    for (let outer = 1; outer < 5; outer ++) {

        for (let inner = 1; inner < outer+1; inner++, k++ ) {

            str = str +k + " ";

            //++num;

        }

        str = str +"\n";

    }

    console.log(str);

output:

[Running] node "c:\Users\ADMIN\Documents\c\JS\_CODE\pattern\_number"

1

2 3

4 5 6

7 8 9 10

2. Write a program to find whether a given number is armstrong number or not-

The Armstrong number is a number that is equal to the sum of cubes of its digits. For example 0, 1, 153, 370, 371 and 407 are the Armstrong numbers. Let's try to understand why 153 is an Armstrong number.

153 = (1\*1\*1)+(5\*5\*5)+(3\*3\*3) where:

(1\*1\*1)=1

(5\*5\*5)=125

(3\*3\*3)=27

So: 1+125+27=153

function armstrong(num) {

    let rem, quotient,cube, temp =0;

    quotient = num;

    while (quotient != 0) {

    rem = quotient % 10;

    cube = rem \* rem \* rem ;

    temp = temp + cube;

    quotient = parseInt(quotient / 10);

    }

    console.log(temp);

    if (num === temp) {

        console.log("number " + num + " is Armstrong number");

    }

    else {

        console.log("number " + num + " is not Armstrong number");

    }

}

armstrong(153);

armstrong(370);

armstrong(78);

[Running] node "c:\Users\ADMIN\Documents\c\JS\_CODE\armstrong.js"

153

number 153 is Armstrong number

370

number 370 is Armstrong number

855

number 78 is not Armstrong number

3. Write a program to find whether a given number is special number or not-

If the sum of the factorial of digits of a number (N) is equal to the number itself, the number (N) is called a special number.

eg- 145 is a special number

Logic- 1! + 4! + 5!= 1+24+120 i.e 145

function specialNum(num) {

    let fact , sum = 0;

    temp = num;

    while(temp != 0) {

        rem = temp % 10;

        sum = sum + factorial(rem);

        temp = parseInt(temp /10);

    }

    console.log(`Sum of the factorial of the digits of number ${num} is ${sum}`);

    /\* To check number is special or not \*/

    if (sum === num) {

        console.log(`Number ${num} is special number`);

    }

    else {

        console.log(`Number ${num} is not special number`);

    }

}

function factorial(num) {

    if (num == 0 || num == 1) {

        return 1;

    }

    else {

        return (num \* factorial(num - 1));

    }

}

specialNum(145);

specialNum(64);

[Running] node "c:\Users\ADMIN\Documents\c\JS\_CODE\specialnum.js"

Sum of the factorial of the digits of number 145 is 145

Number 145 is special number

Sum of the factorial of the digits of number 64 is 744

Number 64 is not special number

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