**Javascript Assignment 2**

1. Write a Javascript function to check whether a triangle is equilateral, isosceles or scalene

function typeTriangle(side1, side2, side3) {

        if((side1 != side2)  && (side1!= side3) && (side2 != side3)) {

            return "Scalene Triangle";

        }

        if ((side1 == side2) && (side3 ==side2) && (side1 = side3)) {

            return "Equilateral triangle";

        }

        else if(((side1 == side2) != side3 ) && ((side2 == side3) != side1 ) && ((side1 == side3) != side2)){

            return "Isosceles Triangle";

        }

}

console.log(typeTriangle(7,7,7));

console.log(typeTriangle(4,4,3));

console.log(typeTriangle(4,4,4));

console.log(typeTriangle(90,32,67));

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

Equilateral triangle

Isosceles Triangle

Equilateral triangle

Scalene Triangle

2. Write a function using switch case to find the grade of a student based on marks obtained

a. “S grade” if the marks are between 90 and 100.

b. “A grade” if the marks are between 80 and 90.

c. “B grade” if the marks are between 70 and 80.

d. “C grade” if the marks are between 60 and 70.

e. “D grade” if the marks are between 50 and 60.

f. “E grade” if the marks are between 40 and 50.

g. “Student has failed” if the marks are between 0 and 40.

h. Else output “Invalid marks”.

function grade(mark) {

    switch(true) {

        case ( mark > 90 && mark <= 100):

                console.log("S grade");

            break;

        case ( mark > 80 && mark <= 90):

            console.log("A grade");

            break;

        case ( mark > 70 && mark <= 80):

            console.log("B grade");

            break;

        case ( mark > 60 && mark <= 70):

            console.log("C grade");

            break;

        case ( mark > 50 && mark <= 60):

            console.log("D grade");

            break;

        case ( mark >= 40 && mark <= 50):

            console.log("E grade");

            break;

        case ( mark >= 0 && mark < 40) :

            console.log("Student has failed");

            break;

        default:

            console.log("Invalid marks");

            break;

    }

}

grade(98);

grade(45)

grade(67)

grade(9)

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

S grade

E grade

C grade

Student has failed

3. Write a JavaScript program to find the sum of the multiples of 3 and 5 under 1000

function sumOfMultiple() {

    var num = 1;

    var sum = 0;

    while (num < 1000) {

        if ( (num % 3 == 0) && (num % 5 == 0) ) {

            sum =  sum + num;

        }

        num++;

    }

    return sum;

}

let a = sumOfMultiple();

console.log(`sum of the multiples of 3 and 5 under 1000 is ${a}`);

[Running] node "c:\Users\ADMIN\Documents\c\JS\_CODE\sum\_of\_multiple\_of3&5"

sum of the multiples of 3 and 5 under 1000 is 33165

4. Write a program to find the factorial of all prime numbers between a given range . Range will be passed as 2 values in the function parameters. eg- if it is needed to find the values for numbers 1-100, then function declaration can look like - function prime(1,100).

function factorial(num) {

    if (num == 0 || num == 1) {

        return 1;

    }

    else {

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

    }

}

function factOfPrime(lower, upper) {

    for (let num = lower; num <= upper ; num++ ) {

        let isPrime = true;

        for (let iterator = 2; iterator < num ; iterator++) {

            if (num % iterator == 0) {

                isPrime = false;

                break;

            }

        }

        if (num == 1) {

            console.log("1 doesn't consider as prime/composite");

        }

        else if (num > 1 && isPrime == true) {

            console.log(`factorial of ${num} is ${factorial(num)}`);

        }

    }

}

factOfPrime(1,24);

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

1 doesn't consider as prime/composite

factorial of 2 is 2

factorial of 3 is 6

factorial of 5 is 120

factorial of 7 is 5040

factorial of 11 is 39916800

factorial of 13 is 6227020800

factorial of 17 is 355687428096000

factorial of 19 is 121645100408832000

factorial of 23 is 2.585201673888498e+22