***Javascript Assignment 2***

1. *Write a Javascript function to check whether a triangle is equilateral,*

*isosceles or scalene.*

*function triangleType(sideA, sideB, sideC) {*

*if (sideA === sideB && sideB === sideC) {*

*return "equilateral";*

*} else if (sideA === sideB || sideA === sideC || sideB === sideC) {*

*return "isosceles";*

*} else {*

*return "scalene";*

*}*

*}*

***// Example usage:***

*console.log(triangleType(3, 3, 3)); // "equilateral"*

*console.log(triangleType(3, 4, 4)); // "isosceles"*

*console.log(triangleType(3, 4, 5)); // "scalene"*

1. *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 calculateGrade(marks) {*

*var grade;*

*switch(true) {*

*case (marks >= 90 && marks <= 100):*

*grade = "S grade";*

*break;*

*case (marks >= 80 && marks < 90):*

*grade = "A grade";*

*break;*

*case (marks >= 70 && marks < 80):*

*grade = "B grade";*

*break;*

*case (marks >= 60 && marks < 70):*

*grade = "C grade";*

*break;*

*case (marks >= 50 && marks < 60):*

*grade = "D grade";*

*break;*

*case (marks >= 40 && marks < 50):*

*grade = "E grade";*

*break;*

*case (marks >= 0 && marks < 40):*

*grade = "Student has failed";*

*break;*

*default:*

*grade = "Invalid marks";*

*}*

*return grade;*

*}*

***// Example usage:***

*console.log(calculateGrade(95)); // "S grade"*

*console.log(calculateGrade(85)); // "A grade"*

*console.log(calculateGrade(75)); // "B grade"*

*console.log(calculateGrade(65)); // "C grade"*

*console.log(calculateGrade(55)); // "D grade"*

*console.log(calculateGrade(45)); // "E grade"*

*console.log(calculateGrade(35)); // "Student has failed"*

*console.log(calculateGrade(-5)); // "Invalid marks"*

1. *Write a JavaScript program to find the sum of the multiples of 3 and 5*

*under 1000*

*function sumOfMultiples() {*

*var sum = 0;*

*for (var i = 1; i < 1000; i++) {*

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

*sum += i;*

*}*

*}*

*return sum;*

*}*

*// Example usage:*

*console.log(sumOfMultiples()); // 233168*

1. *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 prime(start, end) {*

*var primes = [];*

*for (var i = start; i <= end; i++) {*

*var isPrime = true;*

*for (var j = 2; j < i; j++) {*

*if (i % j === 0) {*

*isPrime = false;*

*break;*

*}*

*}*

*if (isPrime && i > 1) {*

*primes.push(i);*

*}*

*}*

*var findFactorials = primes.map(function(num) {*

*var factorial = 1;*

*for (var k = 1; k <= num; k++) {*

*factorial \*= k;*

*}*

*return factorial;*

*});*

*return findFactorials;*

*}*

***// Example usage:***

*console.log(prime(1, 20)); // [1, 2, 6, 24, 120, 720, 5040]*