0606-1.js

(function() {

    function arithmeticOperations(a, b) {

        return {

            addition: a + b,

            subtraction: a - b,

            multiplication: a \* b,

            division: a / b,

            modulo: a % b,

            exponentiation: a \*\* b

        };

    }

    const result = arithmeticOperations(10, 5);

    console.log("Addition: " + result.addition);

    console.log("Subtraction: " + result.subtraction);

    console.log("Multiplication: " + result.multiplication);

    console.log("Division: " + result.division);

    console.log("Modulo: " + result.modulo);

    console.log("Exponentiation: " + result.exponentiation);

})();

0606-2.js

(function() {

    function printVariableTypes() {

        let integer = 42;

        let float = 3.14;

        let string = "Hello, World!";

        let array = [1, 2, 3];

        let obj = { a: 1, b: 2 };

        let bool = true;

        return {

            integer: typeof integer,

            float: typeof float,

            string: typeof string,

            array: typeof array,

            obj: typeof obj,

            bool: typeof bool

        };

    }

    const types = printVariableTypes();

    for (const [name, type] of Object.entries(types)) {

        console.log(`${name}: ${type}`);

    }

})();

0606-3.js

(function() {

    function factorial(n) {

        if (n === 0) {

            return 1;

        } else {

            return n \* factorial(n - 1);

        }

    }

    const number = 5;

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

})();

0606-4.js

(function() {

    function fibonacci(n) {

        let fibSequence = [];

        let a = 0, b = 1, next;

        while (a <= n) {

            fibSequence.push(a);

            next = a + b;

            a = b;

            b = next;

        }

        return fibSequence;

    }

    const number = 50;

    console.log(`Fibonacci sequence up to ${number}: ${fibonacci(number).join(", ")}`);

})();

0606-5.js

(function() {

    function isPalindrome(s) {

        return s === s.split('').reverse().join('');

    }

    const string = "madam";

    console.log(`Is '${string}' a palindrome? ${isPalindrome(string)}`);

})();

0606-6.js

(function() {

    function isPrime(n) {

        if (n <= 1) {

            return false;

        }

        for (let i = 2; i < n; i++) {

            if (n % i === 0) {

                return false;

            }

        }

        return true;

    }

    const number = 17;

    console.log(`Is ${number} a prime number? ${isPrime(number)}`);

})();

0606-7.js

(function() {

    function calculateGrade(mark) {

        let grade;

        if (mark >= 90) {

            grade = 'A';

        } else if (mark >= 80) {

            grade = 'B';

        } else if (mark >= 70) {

            grade = 'C';

        } else if (mark >= 60) {

            grade = 'D';

        } else {

            grade = 'F';

        }

        return grade;

    }

    const mark = 85;

    console.log(`The grade for mark ${mark} is ${calculateGrade(mark)}`);

})();

0606-8.js

(function() {

    function displayGreeting() {

        const now = new Date();

        const hour = now.getHours();

        let greeting;

        if (hour < 12) {

            greeting = "Good Morning";

        } else if (hour < 18) {

            greeting = "Good Afternoon";

        } else if (hour < 21) {

            greeting = "Good Evening";

        } else {

            greeting = "Good Night";

        }

        return greeting;

    }

    console.log(displayGreeting());

})();

0606-9.js

(function() {

    function displayPatterns() {

        const n = 5;

        let patterns = {};

        patterns.pattern1 = [];

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

            patterns.pattern1.push("\*".repeat(i));

        }

        patterns.pattern2 = [];

        for (let i = n; i >= 1; i--) {

            patterns.pattern2.push("\*".repeat(i));

        }

        patterns.pattern3 = [];

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

            patterns.pattern3.push(" ".repeat(n - i) + "\*".repeat(i));

        }

        return patterns;

    }

    const patterns = displayPatterns();

    console.log("Pattern 1:");

    patterns.pattern1.forEach(line => console.log(line));

    console.log("\nPattern 2:");

    patterns.pattern2.forEach(line => console.log(line));

    console.log("\nPattern 3:");

    patterns.pattern3.forEach(line => console.log(line));

})();

0606-10.js

(function() {

    function movieOfTheDay(day) {

        let movie;

        switch (day.toLowerCase()) {

            case "monday":

                movie = "Inception";

                break;

            case "tuesday":

                movie = "Titanic";

                break;

            case "wednesday":

                movie = "Avatar";

                break;

            case "thursday":

                movie = "The Godfather";

                break;

            case "friday":

                movie = "The Dark Knight";

                break;

            case "saturday":

                movie = "Pulp Fiction";

                break;

            case "sunday":

                movie = "The Shawshank Redemption";

                break;

            default:

                movie = "Invalid day";

        }

        return movie;

    }

    const days = ["Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday"];

    days.forEach(day => {

        console.log(`Movie for ${day}: ${movieOfTheDay(day)}`);

    });

})();

index.html

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>JavaScript Exercises</title>

    <script>

        function loadScript(scriptName) {

            const script = document.createElement('script');

            script.src = scriptName;

            script.onload = () => console.log(`${scriptName} loaded successfully`);

            script.onerror = () => console.log(`Error loading ${scriptName}`);

            document.body.appendChild(script);

        }

    </script>

</head>

<body>

    <h1>JavaScript Exercises</h1>

    <ul>

        <li><a href="#" onclick="loadScript('0606-1.js')">Arithmetic Operations</a></li>

        <li><a href="#" onclick="loadScript('0606-2.js')">Variable Data Types</a></li>

        <li><a href="#" onclick="loadScript('0606-3.js')">Factorial</a></li>

        <li><a href="#" onclick="loadScript('0606-4.js')">Fibonacci Sequence</a></li>

        <li><a href="#" onclick="loadScript('0606-5.js')">Palindrome Check</a></li>

        <li><a href="#" onclick="loadScript('0606-6.js')">Prime Check</a></li>

        <li><a href="#" onclick="loadScript('0606-7.js')">Calculate Grade</a></li>

        <li><a href="#" onclick="loadScript('0606-8.js')">Greeting Based on Time</a></li>

        <li><a href="#" onclick="loadScript('0606-9.js')">Display Patterns</a></li>

        <li><a href="#" onclick="loadScript('0606-10.js')">Movies of the Week</a></li>

    </ul>

</body>

</html>

ScreenShots

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generated