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

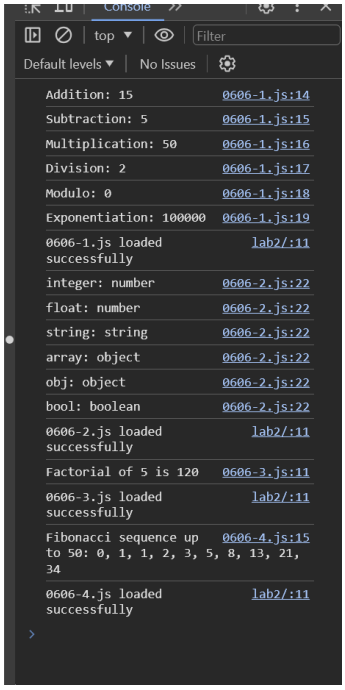
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>JavaScript Exercises</title>
    <script>
        function loadScript(scriptName) {
            const script = document.createElement('script');
            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

JavaScript Exercises

- Arithmetic Operations
- Variable Data Types
- Factorial
- Fibonacci Sequence
- Palindrome Check
- Prime Check
- Calculate Grade
- Greeting Based on Time
- Display Patterns
- Movies of the Week



JavaScript Exercises

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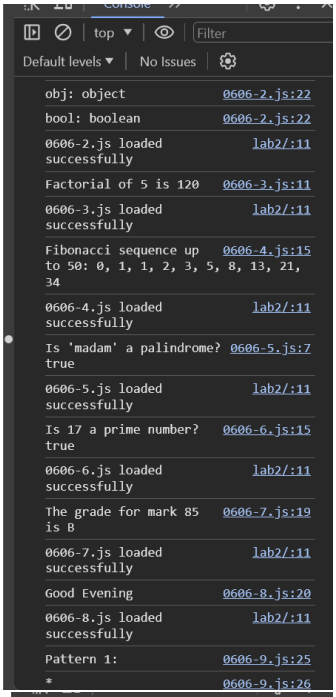

JavaScript Exercises

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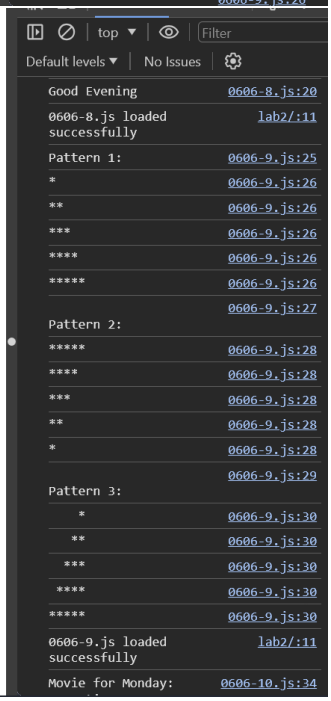

JavaScript Exercises

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