

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

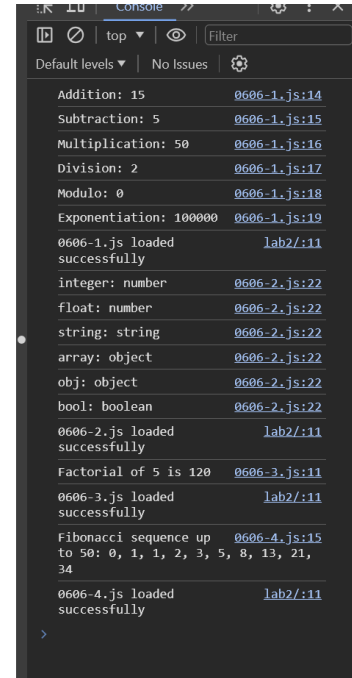
```
<!DOCTYPE html>  
<html lang="en">  
<head>  
    <meta charset="UTF-8">  
    <meta name="viewport" content="width=device-width, initial-scale=1.0">  
    <title>JavaScript Exercises</title>  
    <script>  
        function loadScript(scriptName) {  
            const script = document.createElement('script');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

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- [Movies of the Week](#)

```

obj: object                                0606-2.js:22
bool: boolean                             0606-2.js:22
0606-2.js loaded successfully              lab2/:11
Factorial of 5 is 120                      0606-3.js:11
0606-3.js loaded successfully              lab2/:11
Fibonacci sequence up to 50: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34  0606-4.js:15
0606-4.js loaded successfully              lab2/:11
Is 'madam' a palindrome? true              0606-5.js:7
0606-5.js loaded successfully              lab2/:11
Is 17 a prime number? true                 0606-6.js:15
0606-6.js loaded successfully              lab2/:11
The grade for mark 85 is B                  0606-7.js:19
0606-7.js loaded successfully              lab2/:11
Good Evening                               0606-8.js:20
0606-8.js loaded successfully              lab2/:11
Pattern 1:                                0606-9.js:25
*                                           0606-9.js:26

```

JavaScript Exercises

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```

Good Evening                               0606-8.js:20
0606-8.js loaded successfully              lab2/:11
Pattern 1:                                0606-9.js:25
*                                           0606-9.js:26
**                                          0606-9.js:26
***                                         0606-9.js:26
****                                        0606-9.js:26
*****                                       0606-9.js:26
Pattern 2:                                0606-9.js:27
*****                                     0606-9.js:28
****                                      0606-9.js:28
***                                       0606-9.js:28
**                                        0606-9.js:28
*                                         0606-9.js:28
Pattern 3:                                0606-9.js:29
*                                           0606-9.js:30
**                                          0606-9.js:30
***                                         0606-9.js:30
****                                        0606-9.js:30
*****                                       0606-9.js:30
0606-9.js loaded successfully              lab2/:11
Movie for Monday:                          0606-10.js:34

```


JavaScript Exercises

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- [Display Patterns](#)
- [Movies of the Week](#)

```

*                                0606-9.js:28
Pattern 3:
*                                0606-9.js:30
**                               0606-9.js:30
***                              0606-9.js:30
****                             0606-9.js:30
*****                            0606-9.js:30
0606-9.js loaded                  lab2/:11
successfully
Movie for Monday:                 0606-10.js:34
Inception
Movie for Tuesday:                0606-10.js:34
Titanic
Movie for Wednesday:             0606-10.js:34
Avatar
Movie for Thursday:              0606-10.js:34
The Godfather
Movie for Friday: The             0606-10.js:34
Dark Knight
Movie for Saturday:              0606-10.js:34
Pulp Fiction
Movie for Sunday: The            0606-10.js:34
Shawshank Redemption
0606-10.js loaded                  lab2/:11
successfully

```