





LEARN JAVASCRIPT

 Elevate Your JavaScript Skills with
Loop Exercises!  

Exercise JavaScript Loops!

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This series of hands-on coding exercises focused on JavaScript Loops. Whether you're a coding rookie or a seasoned dev looking to brush up on the fundamentals, these exercises are crafted just for you!  

We've covered a variety of loop types and scenarios:

- Printing Numbers
- Summation Tasks

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- Countdowns with while
- Array Iterations
- Finding Maximum Values
- Solving FizzBuzz
- Using continue for Even Numbers
- Crafting Multiplication Tables
- String Reversals
- Object Property Traversal

Each exercise is accompanied by a solution and a detailed explanation to ensure a deep and clear understanding. 🤓 ✨

Exercise: Print Numbers from 1 to 10

Problem: Write a JavaScript for loop to print numbers from 1 to 10.

Solution:

```
for (let i = 1; i <= 10; i++) {  
  console.log(i);  
}
```

Explanation: The for loop initializes *i* to 1 and increments it by 1 on each iteration, continuing until *i* exceeds 10.

Exercise: Sum of First N Natural Numbers

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Problem: Use a JavaScript for loop to find the sum of the first N natural numbers.

Solution:

```
function sumOfN(n) {  
  let sum = 0;  
  for (let i = 1; i <= n; i++) {  
    sum += i;  
  }  
  return sum;  
}  
  
console.log(sumOfN(10)); // Output: 55
```

Explanation: The function loops from 1 to n, adding each number to the sum.

Exercise: Count Down Timer

Problem: Create a countdown from a specified number to 1 using a while loop.

Solution:

```
function countdown(start) {  
  while (start > 0) {  
    console.log(start);  
    start--;  
  }  
}  
  
countdown(5);
```

Explanation: The while loop continues to execute as long as start is greater than 0, decrementing start in each iteration.

Exercise: Iterate Through an Array

Problem: Use a for loop to iterate through an array and print each element.

Solution:

```
let fruits = ['apple', 'banana', 'cherry'];
for (let i = 0; i < fruits.length; i++) {
  console.log(fruits[i]);
}
```

Explanation: The loop iterates over the array indices and prints the corresponding element at each index.

Exercise: Find the Largest Number in an Array

Problem: Write a function using a loop to find the largest number in an array.

Solution:

```
function findLargest(arr) {
  let largest = arr[0];
  for (let i = 1; i < arr.length; i++) {
    if (arr[i] > largest) {
      largest = arr[i];
    }
  }
}
```

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```
}  
  return largest;  
}  
console.log(findLargest([10, 4, 2, 15, 6])); // Output: 15
```

Explanation: The loop iterates through the array, updating the largest variable whenever a larger number is found.

Exercise: FizzBuzz Problem

Problem: Implement the FizzBuzz problem using a loop: Print numbers from 1 to 100, but for multiples of 3 print "Fizz," for multiples of 5 print "Buzz," and for multiples of both 3 and 5, print "FizzBuzz."

Solution:

```
for (let i = 1; i <= 100; i++) {  
  let output = "";  
  if (i % 3 === 0) output += 'Fizz';  
  if (i % 5 === 0) output += 'Buzz';  
  console.log(output || i);  
}
```

Explanation: The loop uses conditional statements to concatenate 'Fizz', 'Buzz', or both to the output string based on divisibility.

Exercise: Print Even Numbers Using continue

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Problem: Use a for loop with the continue statement to print all even numbers from 1 to 20.

Solution:

```
for (let i = 1; i <= 20; i++) {  
  if (i % 2 !== 0) {  
    continue;  
  }  
  console.log(i);  
}
```

Explanation: The continue statement is used to skip odd numbers, only printing even ones.

Exercise: Create a Multiplication Table

Problem: Write a JavaScript function to generate a multiplication table for a given number up to 10 using nested loops.

Solution:

```
function multiplicationTable(number) {  
  for (let i = 1; i <= 10; i++) {  
    console.log(`${number} * ${i} = ${number * i}`);  
  }  
}  
  
multiplicationTable(5);
```

Explanation: The function prints the multiplication table for the provided number using a loop.

Exercise: Reverse a String

Problem: Use a loop to reverse a given string.

Solution:

```
function reverseString(str) {  
  let reversed = "";  
  for (let i = str.length - 1; i >= 0; i--) {  
    reversed += str[i];  
  }  
  return reversed;  
}  
  
console.log(reverseString('hello')); // Output: 'olleh'
```

Explanation: The loop iterates over the string in reverse order, concatenating each character to form the reversed string.

Exercise: Iterate Through Object Properties

Problem: Use a for...in loop to iterate through all properties of an object and print them.

Solution:

```
let person = { name: 'Alice', age: 30, job: 'Developer' };
```

```
for (let key in person) {  
  console.log(`${key}: ${person[key]}`);  
}
```

Explanation: The for...in loop iterates over each property in the object, accessing both the property name (key) and its value.