

Class 04

DSA In JavaScript

WITH SHERYIANS CODING SCHOOL

JAVASCRIPT

BASICS

FUN WITH NUMBERS!

Exploring fundamental JS concepts with simple exercises

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1. Printing "Hello World" n Times

Use a loop to print "Hello World" n times.

```
let n = Number(prompt("Enter a number"));
if (isNaN(n)) {
    console.log("Invalid input");
} else {
    for (let i = 1; i <= n; i++) {
        console.log("Hello World");
    }
}
```

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2. Printing Natural Numbers.

Print numbers from 1 to n.

```
let n = Number(prompt("Enter a number"));
if (isNaN(n)) {
    console.log("Invalid input");
} else {
    for (let i = 1; i <= n; i++) {
        console.log("Hello World");
    }
}
```

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3. Multiplication Table

Generate a table for a given number.

```
let n = Number(prompt("Enter a number"));
for (let i = 1; i <= 10; i++) {
  console.log(`${n} * ${i} = ${n * i}`);
}
```

4. Sum of First n Natural Numbers

Sum up numbers from 1 to n.

```
let sum = 0;
for (let i = 1; i <= n; i++) {
  sum += i;
}
console.log(`Sum of first ${n} numbers is ${sum}`);
```

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5. Factorial of a Number

Calculate factorial of n.

```
let fact = 1;
for (let i = 1; i <= n; i++) {
    fact *= i;
}
console.log(`Factorial of ${n} is ${fact}`);
```

6. Sum of Even and Odd Numbers

Calculate sum of even and odd numbers separately.

```
let evenSum = 0, oddSum = 0;
for (let i = 1; i <= n; i++) {
    if (i % 2 === 0) evenSum += i;
    else oddSum += i;
}
console.log(`Even Sum: ${evenSum}, Odd Sum: ${oddSum}`);
```

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7. Finding Factors of a Number

Find all divisors of n.

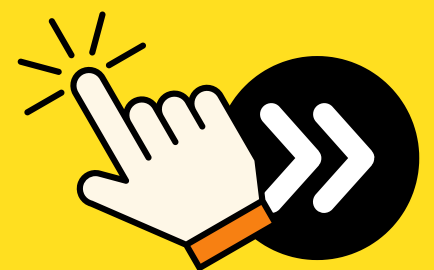
```
console.log(`Factors of ${n}:`);  
for (let i = 1; i <= n; i++) {  
    if (n % i === 0) console.log(i);  
}
```

8. Prime Number Check

Check if n is prime (optimized approach).

```
function isPrime(n) {  
    if (n <= 1) return false;  
    if (n == 2) return true;  
    if (n % 2 === 0) return false;  
    for (let i = 3; i <= Math.sqrt(n); i += 2) {  
        if (n % i === 0) return false;  
    }  
    return true;  
}  
console.log(isPrime(n) ? `${n} is Prime` : `${n} is not Prime`);
```

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9. Power Calculation

Calculate a^b using JavaScript.

```
let a = Number(prompt("Enter first number:"));  
let b = Number(prompt("Enter second number:"));  
  
console.log(Math.pow(a,b));
```

Swipe for more

