



JAVASCRIPT MASTERY

4. Functions in JavaScript

1. Regular Function

- Example:

```
function greet(name) {  
    return `Hello, ${name}`;  
}  
console.log(greet("Alice"));
```

2. Arrow Function

- Shorter syntax for defining functions.
- Example:

```
const add = (a, b) => a + b;  
console.log(add(2, 3)); // Output: 5
```

3. Immediately Invoked Function Expression (IIFE)

- A function that runs immediately after being defined.
- Example:

```
(function() {  
    console.log("This runs immediately!");  
})();
```



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4. Functions in JavaScript

4. Higher-Order Function

- A function that takes another function as an argument.
- Example:

```
function operate(fn, a, b) {  
    return fn(a, b);  
}  
console.log(operate((x, y) => x + y, 10, 20));  
// Output: 30
```



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5.Scoping & Closures in JavaScript

1.Global Scope

- Variables declared outside any function are accessible anywhere.
- Example:

```
let globalVar = "Hello";
function show() {
    console.log(globalVar);
}
```

2.Function Scope

- Variables declared inside a function are not accessible outside.
- Example:

```
function example() {
    let localVar = 10;
}
console.log(localVar); // Error
```

3.closures

- A function that remember variables from its outer functions.
- Example:

```
function outer(x) {
    return function inner(y) {
        return x + y;
    };
}
const addFive = outer(5);
console.log(addFive(10)); // Output: 15
```