

JavaScript Functions - Lesson

Functions in JavaScript are reusable blocks of code designed to perform a particular task. They help make code modular, organized, and easier to maintain. Functions can take inputs (parameters), process them, and return outputs.

Basic Function Syntax:

```
function functionName(parameters) { // code to be executed return value; }
```

Types of Functions in JavaScript:

- **Function Declaration:** Declares a function using the 'function' keyword.
- **Function Expression:** A function stored in a variable (can be anonymous).
- **Arrow Function:** A shorter syntax using the => operator.
- **Anonymous Function:** A function without a name, often used in callbacks.
- **Immediately Invoked Function Expression (IIFE):** A function that runs as soon as it is defined.

Examples of Functions in JavaScript:

```
Function Declaration:  
function greet(name) {  
    return "Hello, " + name;  
}  
console.log(greet("Alice")); // Hello, Alice
```

```
Function Expression:  
const add = function(a, b) {  
    return a + b;  
};  
console.log(add(5, 3)); // 8
```

```
Arrow Function:  
const multiply = (x, y) => x * y;  
console.log(multiply(4, 2)); // 8
```

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