

# JavaScript Functions with Detailed Examples

## Basic Built-in Functions:

```
alert('Hello!'); // Popup alert
let name = prompt('Enter your name:'); // User input
let result = confirm('Do you agree?'); // OK/Cancel confirmation
console.log(parseInt('42px')); // 42
console.log(parseFloat('3.14')); // 3.14
console.log(isNaN('abc')); // true
console.log(typeof name); // string
```

## String Functions:

```
let text = 'JavaScript';
console.log(text.charAt(0)); // 'J'
console.log(text.charCodeAt(0)); // 74
console.log(text.concat(' is awesome')); // 'JavaScript is awesome'
console.log(text.includes('Script')); // true
console.log(text.indexOf('S')); // 4
console.log(text.lastIndexOf('a')); // 3
console.log(text.replace('Script', 'Code')); // 'JavaCode'
console.log(text.slice(0, 4)); // 'Java'
console.log(text.split('a')); // [ 'J', 'v', 'Script' ]
console.log(text.substring(4, 10)); // 'Script'
console.log(text.toLowerCase()); // 'javascript'
console.log(text.toUpperCase()); // 'JAVASCRIPT'
console.log('  hello  '.trim()); // 'hello'
```

## Array Functions:

```
let arr = [1, 2, 3];
arr.push(4); // [1,2,3,4]
arr.pop(); // [1,2,3]
arr.shift(); // [2,3]
arr.unshift(0); // [0,2,3]
arr.splice(1, 1); // removes 1 element at index 1
console.log(arr.slice(0, 2)); // [0,3]
console.log(arr.concat([4,5])); // [0,3,4,5]
console.log(arr.join('-')); // '0-3'
console.log(arr.indexOf(3)); // 1
console.log(arr.includes(2)); // false
console.log(arr.reverse()); // [3,0]
console.log(arr.sort()); // [0,3]
console.log(arr.filter(n => n > 1)); // [3]
console.log(arr.map(n => n * 2)); // [0,6]
console.log(arr.reduce((a,b) => a + b)); // 3
arr.forEach(n => console.log(n));
console.log(arr.find(n => n === 3)); // 3
console.log(arr.findIndex(n => n === 3)); // 1
```

## Math Functions:

```
console.log(Math.round(4.6)); // 5
console.log(Math.floor(4.6)); // 4
console.log(Math.ceil(4.1)); // 5
console.log(Math.random()); // random between 0-1
console.log(Math.max(1,5,3)); // 5
console.log(Math.min(1,5,3)); // 1
console.log(Math.pow(2,3)); // 8
console.log(Math.sqrt(16)); // 4
console.log(Math.abs(-7)); // 7
console.log(Math.trunc(4.9)); // 4
```

## Number Functions:

```
let n = 12.3456;
console.log(n.toFixed(2)); // '12.35'
console.log(n.toString()); // '12.3456'
console.log(Number.isInteger(4)); // true
console.log(Number.isNaN(NaN)); // true
```

## Date Functions:

```
let d = new Date();
console.log(d.getFullYear()); // e.g., 2025
console.log(d.getMonth()); // 0 (January)
console.log(d.getDate()); // 1-31
console.log(d.getDay()); // 0-6 (Sunday-Saturday)
console.log(d.getHours()); // 0-23
console.log(d.getMinutes()); // 0-59
console.log(d.getSeconds()); // 0-59
d.setFullYear(2030);
console.log(d.toLocaleDateString()); // e.g., '7/7/2030'
```

## DOM Functions:

```
let el = document.getElementById('demo');
document.getElementsByClassName('my-class');
document.getElementsByTagName('p');
document.querySelector('.btn');
document.querySelectorAll('div');
let newDiv = document.createElement('div');
el.appendChild(newDiv);
el.removeChild(newDiv);
el.innerHTML = '<b>Bold</b>';
el.textContent = 'Just Text';
el.classList.add('active');
el.classList.remove('active');
```

## Timer Functions:

```
setTimeout(() => console.log('1 second passed'), 1000);
let id = setInterval(() => console.log('Every second'), 1000);
```

```
clearTimeout(id);  
clearInterval(id);
```

## JSON Functions:

```
let obj = {name: 'Maarison', age: 25};  
let jsonStr = JSON.stringify(obj);  
console.log(jsonStr); // '{"name":"Maarison","age":25}'  
let newObj = JSON.parse(jsonStr);  
console.log(newObj.name); // 'Maarison'
```

## Utility Functions:

```
let obj = {x: 10, y: 20};  
console.log(Object.keys(obj)); // ['x', 'y']  
console.log(Object.values(obj)); // [10, 20]  
console.log(Object.entries(obj)); // [['x', 10], ['y', 20]]  
let clone = Object.assign({}, obj);  
console.log(Array.isArray([1,2,3])); // true
```