

Data Types

```
// Primitive
let str = "Hello";
let num = 100;
let bool = true;
let undf; // undefined
let n = null;
let sym = Symbol("symbol");

// Non-primitive
let arr = [1, 2, 3];
let obj = { name: "Alice", age: 30 };
```

Variables

// ES5

```
var name = "John";
```

// ES6+

```
let age = 25;
```

```
const pi = 3.14;
```

Conditionals

```
if (condition) {  
    // code  
} else if (anotherCondition) {  
    // code  
} else {  
    // code  
}
```

```
// Ternary Operator  
let result = (condition) ? 'True' : 'False';
```

Functions

```
// Function Declaration  
function greet(name) {  
    return `Hello, ${name}!`;  
}
```

```
// Function Expression  
const greet = function(name) {  
    return `Hello, ${name}!`;  
};
```

```
// Arrow Function  
const greet = (name) => `Hello, ${name}!`;
```

DOM Manipulation

Manipulating Elements:

```
// Changing Content
element.textContent = 'New Content';
element.innerHTML = '<p>New Content</p>';

// Changing Styles
element.style.color = 'red';

// Adding/Removing Classes
element.classList.add('new-class');
element.classList.remove('old-class');

// Event Listeners
element.addEventListener('click', function() {
  console.log('Element clicked!');
});
```

Loops

```
// For Loop
for (let i = 0; i < 10; i++) {
  console.log(i);
}
```

```
// While Loop
let i = 0;
while (i < 10) {
  console.log(i);
  i++;
}
```

```
// Do-While Loop
let j = 0;
do {
  console.log(j);
  j++;
} while (j < 10);
```

Operators

```
// Arithmetic
let sum = 10 + 5;
let diff = 10 - 5;
let prod = 10 * 5;
let quotient = 10 / 5;
let remainder = 10 % 5;

// Comparison
let isEqual = (10 == "10"); // true
let isStrictEqual = (10 === "10"); // false
let isNotEqual = (10 != 5); // true
let isStrictNotEqual = (10 !== 5); // true

// Logical
let and = (true && false); // false
let or = (true || false); // true
let not = !true; // false
```

Loops

```
// For...of Loop (for Arrays)
let arr = [1, 2, 3];
for (let value of arr) {
    console.log(value);
}
```

```
// For...in Loop (for Objects)
let obj = { a: 1, b: 2, c: 3 };
for (let key in obj) {
    console.log(key, obj[key]);
}
```


DOM Manipulation

Selecting Elements:

```
let element = document.getElementById('id');
```

```
let elements = document.getElementsByClassName('class');
```

```
let element = document.querySelector('selector');
```

```
let elements = document.querySelectorAll('selector');
```