Data Type Conversion

Data Type Conversion [Type Casting]

Convert to Number

```
let num = "10";

// Explicit Type Conversion (Manual)
let convertedNum = Number(num); // Recommended

// Implicit Type Conversion (Type Coercion)
let convertedNum = +num;

// Convert Using parseInt()
let convertedNum = parseInt(num);

console.log(convertedNum); // 10
console.log(typeof convertedNum); // number
```

Convert to String

```
let str = 10;

// Explicit Type Conversion (Manual)
let convertedStr = String(str); // Recommended

// Explicit Type Conversion (Manual)
let convertedStr = str.toString();
```

```
console.log(convertedStr); // "10"
console.log(typeof convertedStr); // string
```

```
// Implicit Type Conversion (Type Coercion)

// String Conversion
console.log("5" + 2);  // "52" (number converted to string)
console.log("5" + true);  // "5true" (boolean converted to string)
console.log(5 + "5");  // "55"

// Number Conversion
console.log("5" - 2);  // 3 (string converted to number)
console.log("5" * "2");  // 10 (both converted to numbers)
console.log("5" / "2");  // 2.5
console.log("5" - true);  // 4 (true → 1)
console.log("5" - false);  // 5 (false → 0)
console.log("hello" - 2);  // NaN (invalid number)
```

```
// Explicit Type Conversion (Manual)

// Convert to String
let num = 100;
console.log(String(num));  // "100"
console.log(num.toString());  // "100"
console.log(String(true));  // "true"


// Convert to Number
console.log(Number("123"));  // 123
console.log(Number("123abc"));  // NaN
console.log(Number(true));  // 1
console.log(Number(false));  // 0

// Convert to Boolean
```

```
console.log(Boolean(1));  // true
console.log(Boolean(0));  // false
console.log(Boolean("hello"));  // true
console.log(Boolean(""));  // false
```

Special Cases in Type Conversion

Expression	Result	Explanation
`"5" + 2`	`"52"`	String concatenation
`"5" - 2`	`3`	String converted to number
`"5" * "2"`	`10`	Both converted to numbers
`true + 2`	`3`	`true` → `1`
`false + 2`	`2`	`false` → `0`
`null + 5`	`5`	`null` → `0`
`undefined + 5`	`NaN`	`undefined` → `NaN`