

Simple Assignment Operator

- Syntax: =
- Used to assign a value to a variable.

Example:

```
let x = 10;
```

- - Here, = is the assignment operator.

1. Assignment with Arithmetic Operations

- Assignment operators can combine with arithmetic operators.
- Instead of writing `x = x + y`, we can use shorthand:

a) Addition Assignment (+=)

```
let x = 10;  
let y = 20;  
x += y;    // equivalent to x = x + y  
console.log(x); // 30
```

b) Subtraction Assignment (-=)

```
x -= y;    // equivalent to x = x - y  
console.log(x); // 10
```

c) Multiplication Assignment (*=)

```
x *= y;    // equivalent to x = x * y  
console.log(x); // 200
```

d) Division Assignment (/=)

```
x /= y;    // equivalent to x = x / y
console.log(x); // 10
```

e) Modulus Assignment (%=)

```
x %= y;    // equivalent to x = x % y
console.log(x); // 10
```

f) Exponentiation Assignment (**=)

```
x **= y;    // equivalent to x = x ** y
console.log(x); // 10^20 (10 with 20 zeros)
```

2. Assignment with Strings

- Strings can also use assignment operators.

a) String Concatenation

```
let firstName = "Anshika";
let lastName = "Agarwal";
firstName += lastName;
console.log(firstName); // "AnshikaAgarwal"
```

- The += operator works for strings to concatenate values.

b) String + Number Concatenation

```
const age = 20;
const statement = age + " is my age";
console.log(statement); // "20 is my age"
```

- When a string and number are added:

- The **number is converted to a string**.
 - The result is always a **string**.
-

3. Key Takeaways

- `=` assigns a value to a variable.
- Shorthand operators like `+=`, `-=`, `*=`, `/=`, `%=`, and `**=` combine arithmetic with assignment.
- These operators simplify expressions like `x = x + y`.
- Concatenation works with both strings and string-number combinations.
- The result of `string + number` is always a string.