Chapter 2 - Expressions & Conditionals

A fragment of code that produces a value is called an expression. Every value written literally is an expression. for ex: 77 or "Harry"

Operators in JavaScript

1. Arithmetic operators

+	Addition
-	Subtraction
*	Multiplication
**	Exponentiation
/	Division
%	Modulus
++	Increment
--	Decrement

2. Assignment Operators

=	x = y
+=	x = x + y
-=	x = x - y
*=	x = x * y
/=	x = x / y
%=	x = x % y
**=	x = x ** y

3. Comparison Operators

==	equal to
!=	not equal
===	equal value and type
!==	not equal value or not equal type
>	greater than
<	less than
>=	greater than or equal to
<=	less than or equal to
?	ternary operator

4. Logical Operators

&&	logical and
||	logical or
!	logical not

Apart from these, we also have type and bitwise operators. Bitwise operators perform bit by bit operations on numbers.

operands
7 + 8 = 15 → Result
↳ operator

Comments in JavaScript

Sometimes we want our programs to contain a text which is not executed by the JS Engine

Such a text is called comment in Javascript

A comment in Javascript can be written as follows :

```
let a = 2; // this is a single line comment
```

→ Single line Comment

```
/*
  I am a
multiline comment
*/
```

} Multiline comment

Sometimes comments are used to prevent the execution of some lines of code

```
let switch = true;
// switch = false
```

→ Commented line wont execute

Conditional Statements

Sometimes we might have to execute a block of code based off some condition.
For example a prompt might ask for the age of the user and if its greater than 18, display a special message.

In JavaScript we have three forms of if ... else statement.

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2. if ... else statement
3. if ... else if ... else statement

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If statement

The if statement in JavaScript looks like this:

```
if (condition) {
    // execute this code
    }
```

The if statement evaluates the condition inside the ( ). If the condition is evaluated to true, the code inside the body of if is executed else the code is not executed.

if - else statement

The if statement can have an optional else clause. The syntax looks something like this

```
if (condition) {
    // block of code if condition true
    }
else {
    // block of code if condition false
    }
```

If the condition is true, code inside if is executed else code inside else block is executed

if - else if statement

Sometimes we might want to keep rechecking a set of conditions one by one until one matches. We use if else if for achieving this.

Syntax of if...else if looks like this

```
if (age >0) {
        Console.log(" A valid age");
  }
else if (age > 10 && age < 15) {
        Console.log(" but you are a kid");
    }
else if (age >18) {
        Console.log(" not a kid");
      }
else {
    Console.log("Invalid Age")
     }
```

JavaScript ternary Operator
Evaluates a condition and executes a block of code based on the condition

Condition ? exp1 : exp2

Example Syntax of ternary operator looks like this:

(marks >10) ? 'Yes' : 'NO'

↳ if marks are greater than 10, you are passed else not