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.

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

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

Chapter 2 - Practice Set

1. Use logical operators to find whether the age of a person lies between 10 and 20?

2. Demonstrate the use of switch case statements in JavaScript

3. Write a Java Script program to find whether a number is Divisible by 2 and 3.

4. Write a JavaScript program to find whether a number is Divisible by either 2 or 3.

6. Print "You can Drive" or "You cannot Drive" based on age being greater than 18 using ternary operator.