

JavaScript Course

Course Topics:

Basics	Advance	Prov Level
How Website Works? What is JavaScript? History of JavaScript Values & Variables Data Types in JavaScript Concat & Type Coercion Operators & Expression If Statements & Loops Functions in JavaScript Arrays in JavaScript Strings in JavaScript Math Object Date & Time in JavaScript	EcmaScript 2015 - 2024 Window Objects – BOM vs DOM Events Objects in JavaScript localStorage in JavaScript Timing Based Events Objects in JavaScript OOPs in JavaScript Event Propagations Advanced Functions JSON & FETCH API & other APIs Promises, Async-Await Error Handling in JavaScript	How JavaScript Works ? Notes + List of Deprecate properties ECOM WEBSITE WITH HTML, CSS & JAVASCRIPT

What is JavaScript ?

JavaScript improves the user experience of the webpage by converting it from a static page into an interactive one.

OR

JavaScript is used to update and change both HTML and CSS.
It adds behavior to webpages

Ways to Write JavaScript Code.

Inline JavaScript

```
<button onclick="alert('Hello')">Click me </button>
```

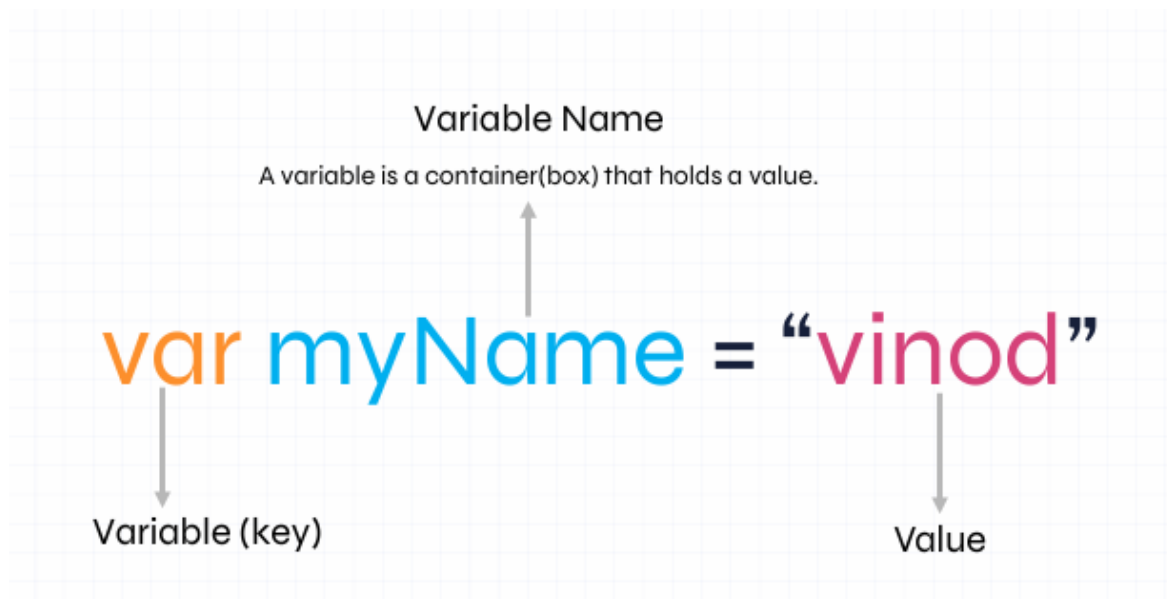
Internal JavaScript

```
<script> console.log('Hello, world!'); </script>
```

External JavaScript

```
<script src="script.js"></script>
```

JavaScript Values & Variables



Naming Variables: Rules and Best Practices

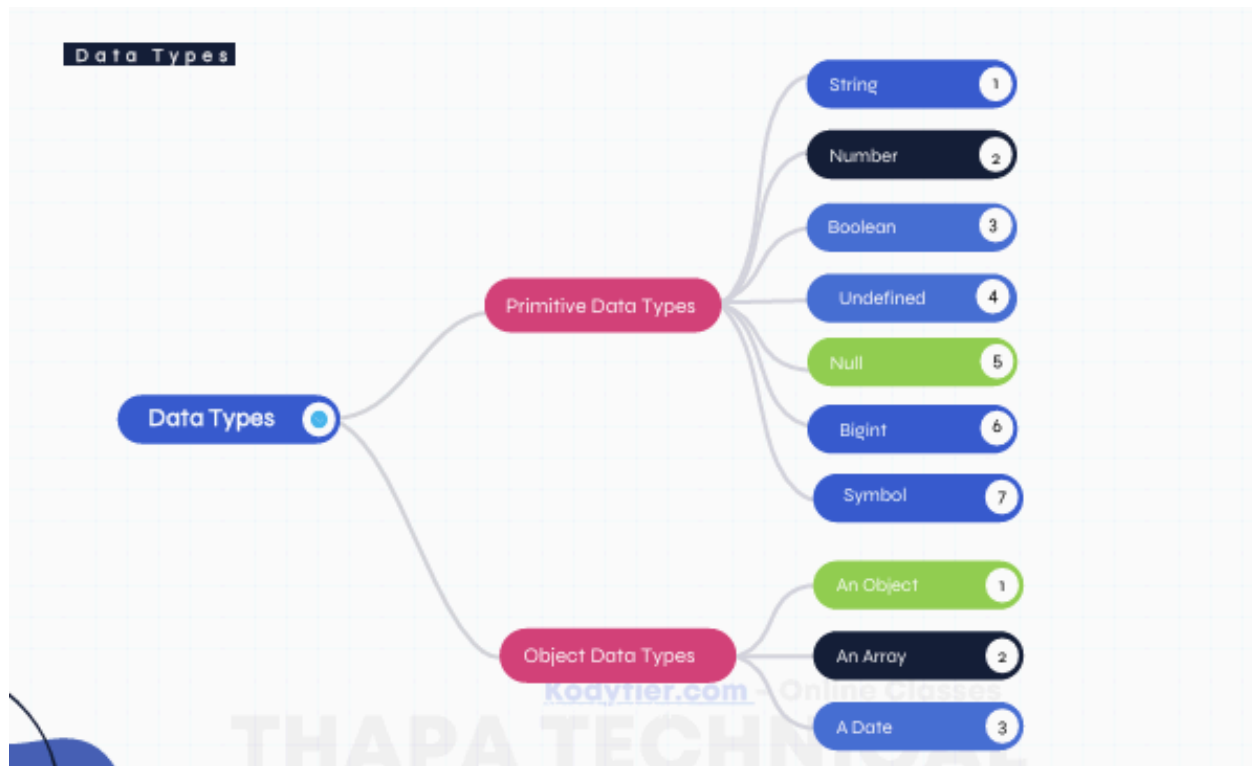
- Variable names must start with a letter, an underscore(_) or a dollar sign(\$).

- Variables cannot be the same as reserved keywords such as if or const.
 - Variable names cannot contain spaces.
 - variable names are case sensitive.
 - By convention, JavaScript variable names are written in camelCase.
 - Variable names can be as long as you need.
-

Questions

Questions	Answers
<code>var my_firstName = "John";</code>	This is a valid variable name.
<code>var _myLastName\$ = "Doe";</code>	This is a valid variable name.
<code>var 123myAge = 25;</code>	This is not a valid variable name.
<code>var \$cityName = "New York";</code>	This is a valid variable name.
<code>var my@Email = "Thapa@me.com"</code>	This is not a valid variable name.

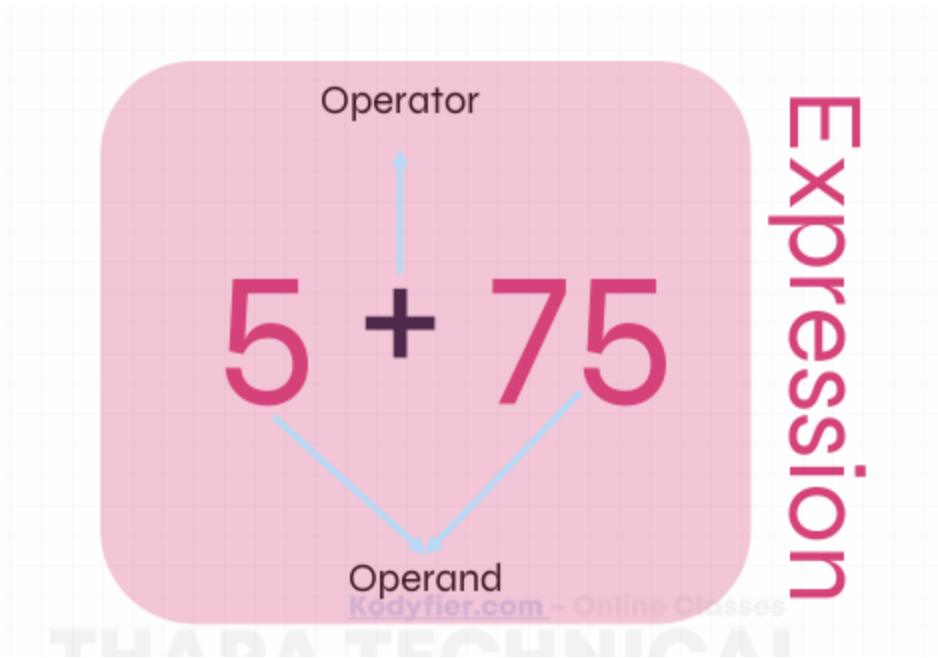
JavaScript Data Types



Interview Questions - DataTypes

1. What is the difference between a null and undefined in JavaScript?
2. What is the purpose of typeof operator in JavaScript?
3. What is the result of `typeof null` in JavaScript?
4. What are the primitive data types in JavaScript?
5. Explain the concept of truthy and falsy values in JavaScript. Provide examples?

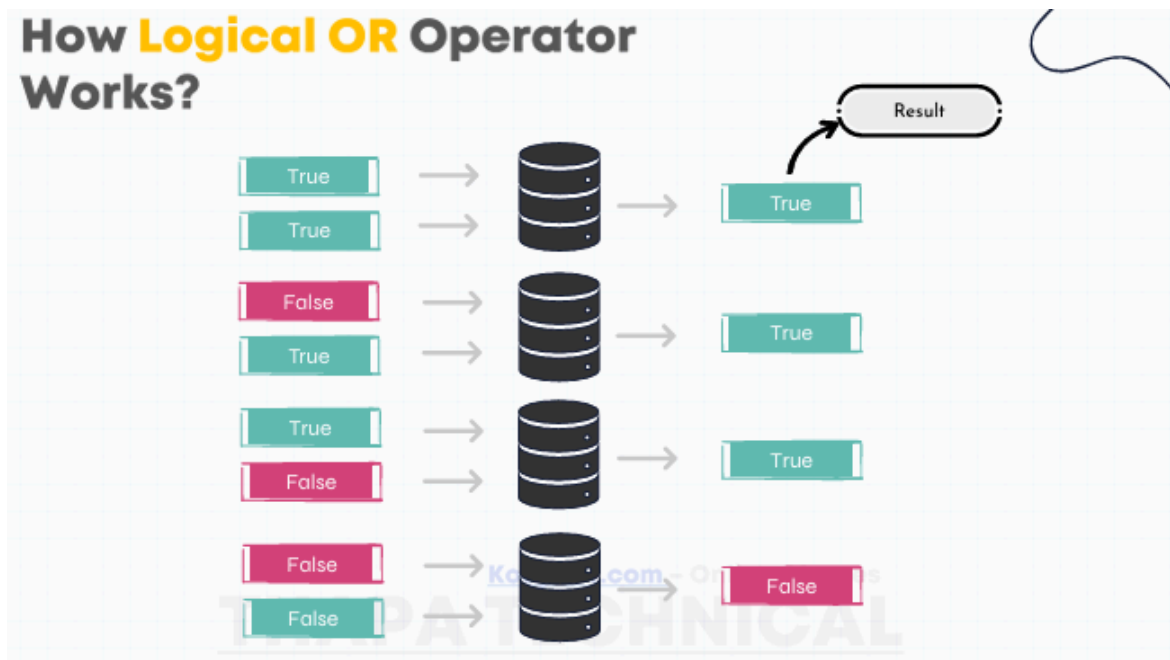
JavaScript Expressions & Operators



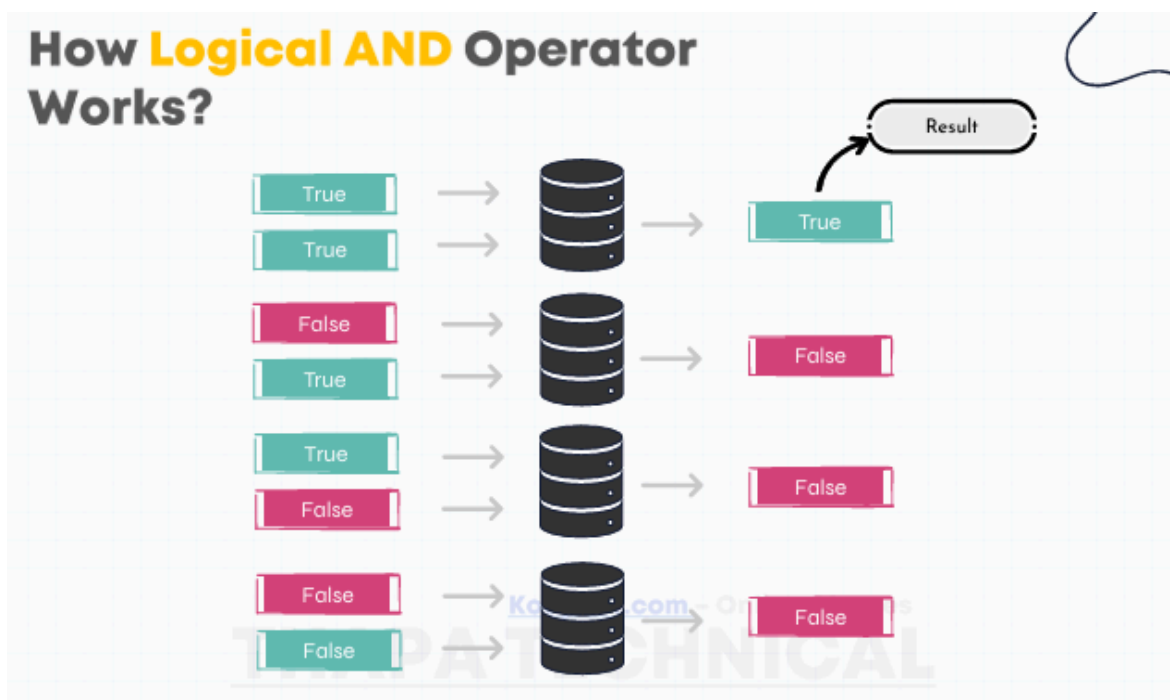
Types of Operators



How Logical OR Operator Works



How Logical AND Operator Works?



Ternary Operator

Syntax:

condition ? expressionIfTrue : expressionIfFalse;

We get the output, if
condition is true

We get the output, if
condition is false

Interview Questions

Interview Questions

console.log("5" - 3);

console.log(2 < 12 < 5);

console.log("20" + 10 + 10);

2 (Type Coercion)

True (Exp. evaluates from
Left to Right)

'201010' (same as 2nd)

[Kodyfier.com](https://kodyfier.com) - Online Classes

JavaScript Control Statement & Loops

1. If.. Else Statement

2. Switch Statement
 3. While Loop
 4. Do While Loop
 5. For Loop
 6. For in / For Of Loop (Later in Arrays)
-

Syntax-if Else

```
if (condition) {  
  // Code to be executed if the condition is true  
} else {  
  // Code to be executed if the condition is false  
}
```

Example - If Statement

```
var temp = 40;  
if (temp > 30) {  
  console.log("Let's go to Beach ")  
} else {  
  console.log("Watch TV at Home ")  
}
```

If Else Statements Quiz

1. Write a program to check if a number is even or odd.
 2. Write a program to check if a number is prime.
 3. Write a program to check if a number is positive, negative, or zero.
-

Switch Statement

Q: Write a JavaScript switch statement that takes a variable `areaOfShapes` representing different shapes, and based on its value, calculates and logs the area of the corresponding shape. Consider three shapes: 'Rectangle,' 'Circle,' and 'Square.' For 'Rectangle,' use variables `a` and `b` as the sides; for 'Circle,' use a variable `r` as the radius; and for 'Square,' use variable `a` as the side length. If the provided shape is not recognized, log a message saying, 'Sorry the shape is not available.' Test your switch statement with `areaOfShapes` set to 'Square' and sides `a` and `b` set to 5 and 10, respectively. Ensure that the correct area (25 in this case) is logged to the console

Syntax - While Loop

```
while (condition) {  
  // Code to be executed as long as the  
  condition is true  
}
```

Syntax - Do-While Loop

```
do {  
  // Code to be executed at least once  
} while (condition);
```

Syntax - For Loop

```
for(initializer; condition; iteration)
{
    // Code to be executed
}
```

Syntax - While Loop

```
let i=1; // Initialization

while(i<=10) { // (i<=0) condition
    console.log(i);
    i++; // iteration
}
```

Syntax - Do While Loop

```
let i=1; // initialization

do{
    console.log(i);
    i++
} while (i<=10) // condition
```

Syntax - For Loop

```
for (let i = 1; i<=10; i++){
    console.log(i);
}
```

For Loop Task

Program to check if a year is a leap year,

If a year is divisible by 4 and not divisible by a 400, then it is a leap year.

Otherwise, it not a leap year.

For Loop Task -2

For Loop

	J=1	J=2	J=3	J=4	J=5
I=1	*				
I=2	*	*			
I=3	*	*	*		
I=4	*	*	*	*	
I=5	*	*	*	*	*

logic I == J => print *

THAPA TECHNICAL

For Loop Task - 3

For Loop

	J=1	J=2	J=3	J=4	J=5
I=1	*				
I=2					
I=3					
I=4					
I=5					
logic	I == J	=>	print *		

JavaScript Functions

In JavaScript, a function is a block of reusable code that performs a specific task or set of tasks. Functions are used to organize code into modular and manageable pieces, promote code reuse, and make programs more readable.

```
function functionName(parameters) {  
  // code to be executed  
  return result; // optional return statement  
}
```

What we will cover

1. Function Declaration
2. Function Invocation
3. Function Parameter
4. Function Argument

5. Function expressions
6. Anonymous Function
7. Return Keywords
8. IIFE (immediately invoked function expression)
9. More we will see in advanced.

Syntax - Function Declaration

```
function greet() {  
  console.log("Welcome to The JS Course ");  
}
```

```
// ==== Explanation ====  
// function = function keyword  
// greet = function name  
// console.log .... = function Body
```

Syntax - Function Invocation

```
function greet () {  
  console.log("hello i'm nazeem khan");  
}
```

```
greet(); // we need to call the function name
```

```
// output: hello i'm nazeem khan
```

Syntax - Function Parameter

```
function greet(parameter1, parameter2){  
  console.log("JavaScript is the best!");  
}
```

```
greet() // call the function
```

Syntax - Function Argument

```
function greet (parameter1, parameter2, ...){  
  console.log("Best JS Course");  
}
```

```
greet(argument1)
```

Syntax - Function Argument

```
function greet(parameter1, parameter2, ...){  
  console.log(" Best JS Course ");  
}
```

```
greet(argument1, argument2)
```

Syntax - Function Argument

```
function greet(parameter1, parameter2, ...)  
{  
  console.log(" Best JS Course ");  
}
```

```
greet(argument1, argument2, ...)
```

Interview Questions - Functions

1: Reverse a String: Write a function to reverse a given string without using built-in reverse methods.

2: Palindrome Check: Create a function to determine if a given string is a palindrome (reads the same backward as forward).

3: Calculator Function: Write a JavaScript function calculator that takes two numbers and an operator as parameters and returns the result of the operation. The function should support addition, subtraction, multiplication, and division.
