

JavaScript Introduction

- > Javascript is the world's most popular programming language.
- > Javascript is the programming language of the web.
- > Javascript is easy to learn.
- > Javascript is a programming or a scripting language that allows the implementation of features on websites.
- > It is a programming language that adds interactivity to your website.
- > Javascript was first known as LiveScript, but Netscape changed its name to Javascript.
- > Javascript (JS) is a light-weight object-oriented programming language which is used by several websites for scripting the web pages.
- > It was introduced in the year 1995. Javascript has no connectivity with Java programming language.
- > Javascript follows the syntax and structure of the C programming language. Thus it is a structured programming language.

- > It is a light-weight and fast interpreted language.
- > It is a case-sensitive language.

Applications of Javascript :-

Javascript is used to create interactive websites.
It is mainly used for -

- > Client-side validation.
- > Dynamic drop-down menus.
- > Displaying date and time.
- > Displaying pop-up windows and dialog boxes.
- > Animation.
- > Autocomplete.

> Browser Detection.

JavaScript tools -

- ① Code Editor
- ② Browser

Advantages of Javascript :-

- ① Fast execution.
- ② Easy to learn.
- ③ Interoperability.
- ④ Event-based programming.

Date _____
Page _____

⑧ Procedural programming

Disadvantage of Script

- > Security issues
- > Transcript recording viruses

JavaScript variables — In programming or even in algebra, we use variables to hold values.

In JavaScript, variables are used to store data. The data stored could be a text, a number or others.

Making use of variables in JavaScript is very easy.

Here's how! —

```
var firstName = "John";  
var lastName = "Doe";  
var age = 30;
```

// Printing values

```
document.write(firstName + " " + lastName);  
document.write(age);
```

As you can except! —

- The text "John" is stored / assigned to FirstName
- The text "Doe" is stored / assigned to lastName
- The number 30 is stored / assigned to age.

Declaring a variable

The var statement creates or declares a variable.

```
var x = 21;
```

```
document.write(x); // Print the value
```

In this example, the variable x is declared and its initialized to the value 21.

① Javascript local variable :- — A Javascript local variable is declared inside block or function. It is accessible within the function or block only.

② Javascript global Variable :- — A Javascript global variable is accessible from any function.

Java Script operators

Java script operators are used to perform particular actions.

They can be used to assign values, compare values, combine values, perform arithmetic operations and more.

There are different types of operators

Assignment operators

Arithmetic operators

String operators

Comparison operators

Logical operators

Bitwise operators

① Assignment operations :- The assignment operator is used to assign a value to a variable.

It uses the equal = symbol.

`var x=3` // assigns number 3 to x

`var y=5` // assigns number 5 to y

`var sum=x+y;` // assigns the sum of x and y to sum

`document.write(sum);` // Prints sum.

② Arithmetic operators :- It is used to perform arithmetic operations (like addition, subtraction, multiplication and division) between values.

Here are the symbols used for the arithmetic operators:-

- Addition : +
- Subtraction : -
- Multiplication : *
- Division : /

Addition examples

`var num1=8;`

`var num2=2;`

`var sum=num1+num2;`

`document.write(sum);`

③ String operators :- It is used to concatenate or add strings.

The addition operator + and the assignment operator += are the string operators.

Ex -

```
var firstname = "John";
```

```
var lastname = "Doe";
```

```
var fullname = firstname + lastname;
```

```
document.write(fullname);
```

④ Comparison operators :- Comparison operators compare its operands and return a boolean based on whether the comparison is true or false.

```
var x = 5;
```

```
var y = 5;
```

```
document.write(x == y); (Print true because x and y are equal)
```

⑤ Logical operators :- They are used to determine the logic between its operands.

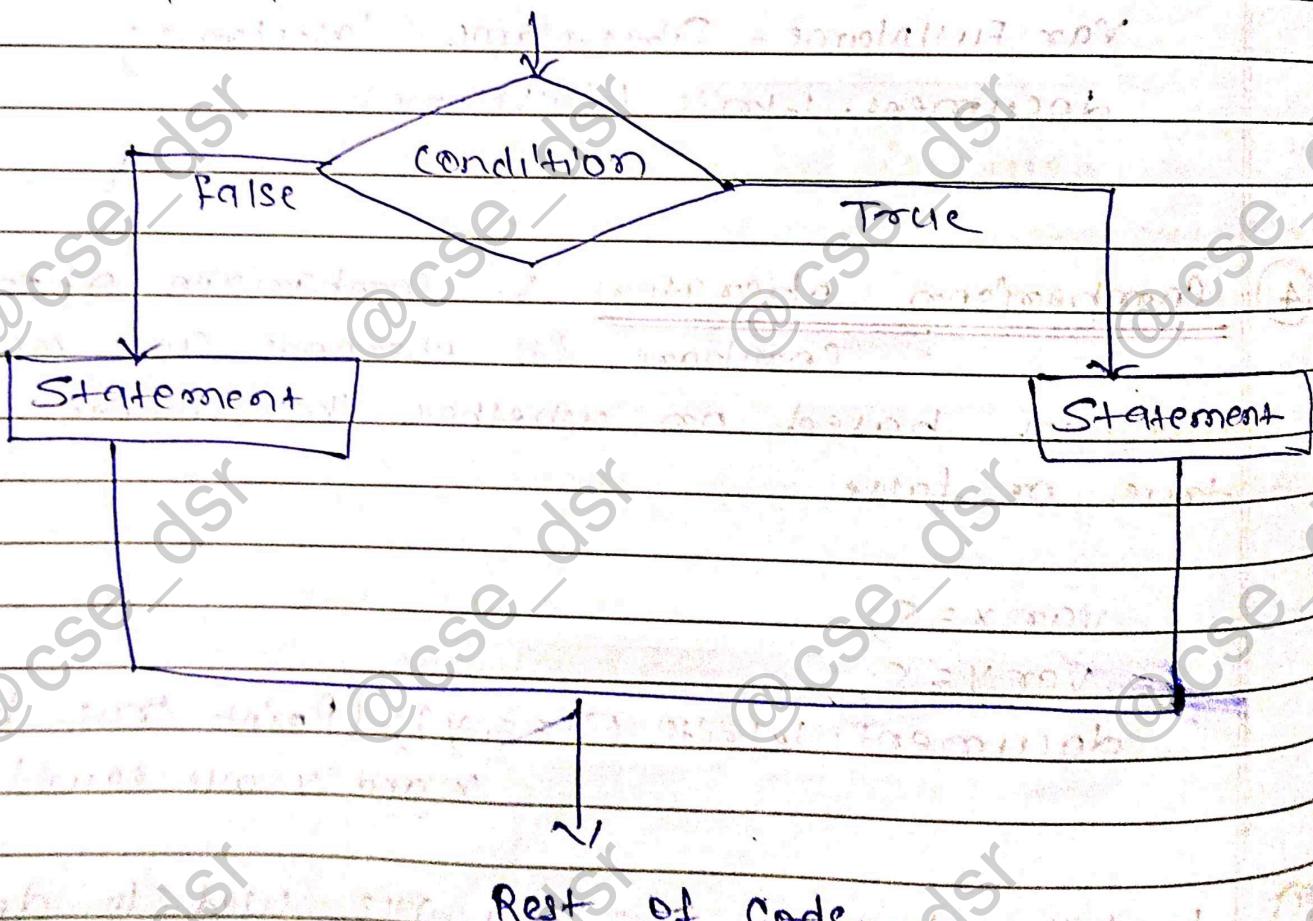
⑥ Bitwise operators :- A bitwise operator treats its operands as a set of 32 bit or zeros. It performs bit operations on binary representation.

Conditional Statements in JavaScript :-

> Conditional statements are used to execute code based on different conditions.

The if Statement :-

It is used to decide the flow of execution based on different conditions. If a condition is true, you can perform one action and if the condition is false, you can perform another actions.



→ Different Types of Conditional statements-

> There are mainly three types of conditional statements in Java Script.

- 1) If Statement
- 2) If ... Else Statement
- 3) If ... Elseif ... Else Statement

If condition is true

① If Statement :-

Syntax —

If (condition)

{

lines of code to be executed
if condition is true

}

② If ... Else Statement

If (condition)

{

lines of code to be executed
if the condition is true

else

{

lines of code to be executed
if the condition is false

}

③ If ---- Else if --- Else Statement :-

If (conditional)
{

lines of code to be executed if
condition 1 is true

3

else if (Condition 2)

{

lines of code to be executed
if condition 2 is true.

3

else

{

lines of code to be executed if
condition 1 is false and condition 2
is false

3

#

JavaScript Events

Events are actions that happen in the system you are programming.

↳ These are some JavaScript events:

- ① onclick event
- ② onkey up event
- ③ onmouseover event
- ④ onchange event
- ⑤ onload event
- ⑥ onfocus event

↳ An HTML event can be something the browser does, or something a user does.

↳ HTML events are things that happen to HTML elements.

↳ In them, JavaScript is used on HTML pages, JavaScript can "react" on these events.

Javascript Popup Boxes

↳ Javascript has three kind of popup boxes:

Alert box

Confirm box

Prompt box

↳ Popup boxes are used to display the message or notification to the user.

① Alert box :- It is used when a warning message is needed to be produced. When the alert box is displayed to the user, the user needs to press OK and proceed.

Syntax:

```
Alert ("Your Alert here")
```

② Prompt box:- It is a type of pop up box which is used to get the user input for further use.

After entering the required details user have to click OK to proceed next stage else by pressing the cancel button user is returning the null value.

Syntax:-

Prompt ("Your Prompt here")

- ① Confirm Box :- It is a type of pop-up box that is used to get authorization or permission from the user. The user has to press the OK or Cancel button to proceed.

Confirm ("Your query here")

JavaScript form validation

- ↳ It is important to validate the form submitted by the user because it can have inappropriate values. So, validation is used to authenticate user.
- ↳ JavaScript provides facility to validate the form. Most of the web developers prefer Javascript form validation.
- ↳ Through Javascript, we can validate name, password, email, date, mobile numbers and more fields.

classmate

Ex :- Inter are going to validate the name and password the name can't be empty and password can't be less than 6 characters long.

Here, we are validating the form on form submit. the user will not be forwarded to the next page until given values are correct.