**How to include javascript within HTML?**

Javascript can be included within HTML using <script> tag.

This tag can be used within,

1. head

2. body

**Syntax:**

<script>

javascript

</script>

Note: every statement in javascript is endwith ;

**Javascript code within <head>**

The web page is divided into two parts

1. Head
2. Body

When webpage is loaded, browser executes head and after execution of head, it executes body.

Head is executed browser only once.

Real time applications include java script within head.

**Syntax:**

<head>

<script language=”javascript”>

Statement-1;

Statement-2;

</script>

</head>

Language is an attribute of script tag.

This attribute define which scripting language used for writing script.

**Javascript code within body**

The content of body is loaded more than one time

<body>

<script>

Statement-1;

Statement-2;

<script>

<body>

**External java script code (.js)**

External java script file, provides reusability between web pages.

**Syntax:**

<script src=”path”>

<script src=”x.js”>

**Example:**

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <script>

       alert("Inside Head");

    </script>

</head>

<body>

   <script>

    alert("Inside Body");

   </script>

</body>

</html>

**Example:**

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <title>Document</title>

    <script src="/src/js1.js"></script>

</head>

<body>

</body>

</html>

**Java script Language Fundamentals**

1. Keywords
2. Identifiers
3. Datatypes
4. Literals
5. Operators

**Keywords**

Keywords are reserved words, the meaning of these words are reserved by java script translator. These are predefined words or language related words

**List of Keywords**

while,case,class,void,function,instanceof

throw,export,delete,catch,private,package

true,debugger,extends,default,interface,super

with,enum,if,return,switch,try

let,yield,typeof,public,for,static

new,else,finally,false,import,var

do,protected,null,in,implements,this

await,const,continue,break

**Identifier**

Identifiers are user defined words, which are used for identifying programming elements.

1. Variable name
2. Constant name
3. Function name
4. Class name

Identifier is a user defined word, which is created using alphabets (a-z,A-Z),digits(0-9) and special character \_,$

**Rules for defining identifiers**

1. Keywords cannot used as identifiers

if=10

Uncaught SyntaxError: Unexpected token '='

while=1

Uncaught SyntaxError: Unexpected token

1. There should not be any space within identifier

student rollno=1

VM131:1 Uncaught SyntaxError: Unexpected identifier 'rollno'

Javascript is a case-sensitive language and it finds the difference between uppercase and lowercase

**Example:**

a=10

10

A=20

20

a

10

A

20

1. Identifier should not start with digit

1a=10

VM417:1 Uncaught SyntaxError: Invalid or unexpected token

a1=10

10

a2=30

30

1. Identifier allows only two special characters \_,$

\_=100

100

console.log(\_)

VM570:1 100

undefined

$=200

200

console.log($)

VM647:1 200

undefined

amt$=100

100

console.log(amt$)

VM730:1 100

**Literals and Data types**

Any programming language, data is represented using data types.

Data is represented in memory using data type.

Java script is a dynamically typed programming language.

The type of variable is not known at compile time, it is known runtime.

**Java Script data types**

1. number

This data type is used for representing numeric value in java script.

1. Int
2. Float

**Example:**

a=10

10

typeof a

'number'

c=1.5

1.5

typeof c

'number'

x=9999999999999999999999999999999999999999999999

1e+46

y=999999999999999999999999999999999999999999999999999999999999999999999999999

1e+75