Java Script

Presented by

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What is JavaScript?

- Scripting Language:

  – Uses resources of another language

- Javascript is a scripting language

  – JS uses HTML and Java resources

- JS makes HTML pages live

- JS programs are called as scripts

- Created by Brendan Eich
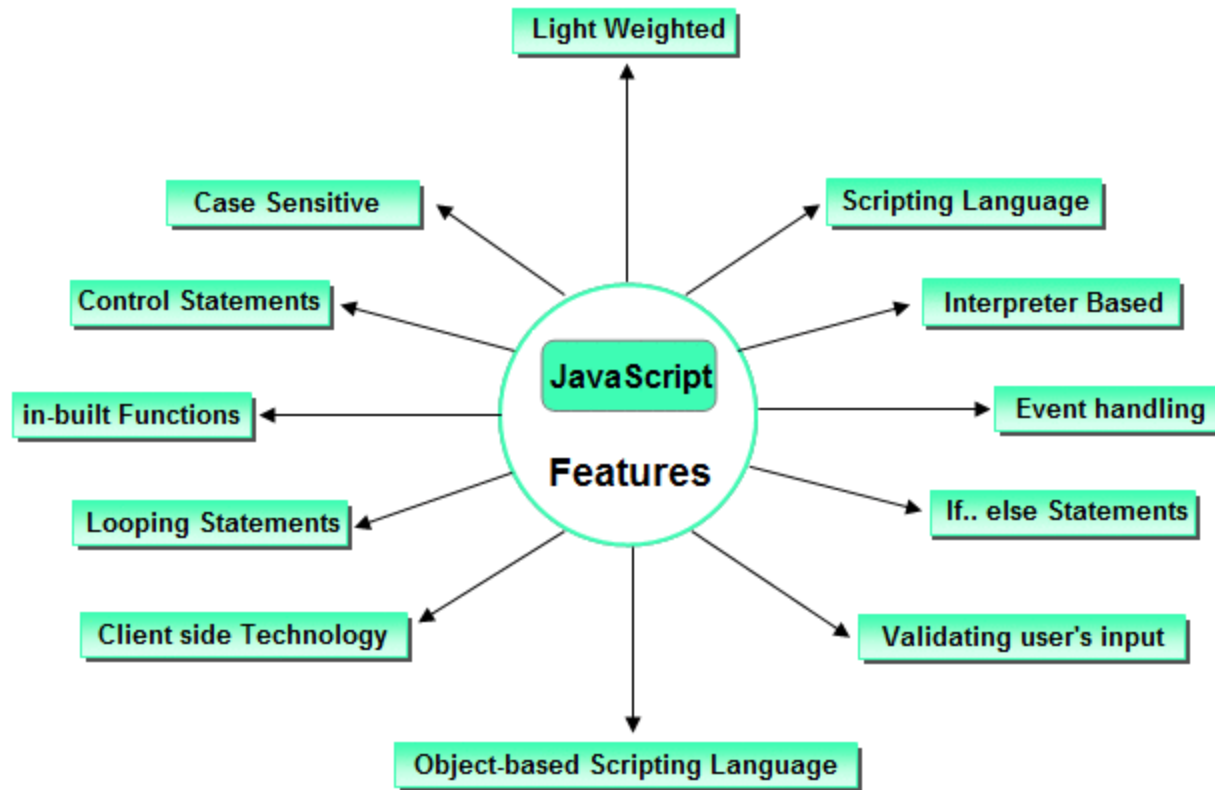
Brendan Eich
JavaScript creator

What JS can do?

- JS makes HTML pages live
- Modifies text on the page
- Shows popup messages
- Event Driven :
  - Action will be taken based on the user interaction
  - Executes codes on mouse click, key press, load
- JS programs are called as scripts
- Client validation

Features of JavaScript

What's cool in Javascript?

1. Full integration with HTML/CSS

2. Simple things can be done simply

3. Supported by all browsers and enabled by default

Where to put the JavaScript?

1. In <body> section

Ex:

```
<html>
    <head>
        <title>Home Page </title>
    </head>
    <body>
     <script type="text/javascript">
        document.write("Hello World! - Body Section")
     </script>
     </body>
  </html>
```

Advantage :
    The script generates the content of the page.

Where to put the JavaScript?

2. In <head> section

Ex:

```
<html>
   <head>
      <title>  Home Page </title>
      <script type="text/javascript">
         document.write("Hello World! – Head Section");
      </script>
   </head>
   <body>
      <p> Hello World! In a paragraph  </p>
   </body>
 </html>
```
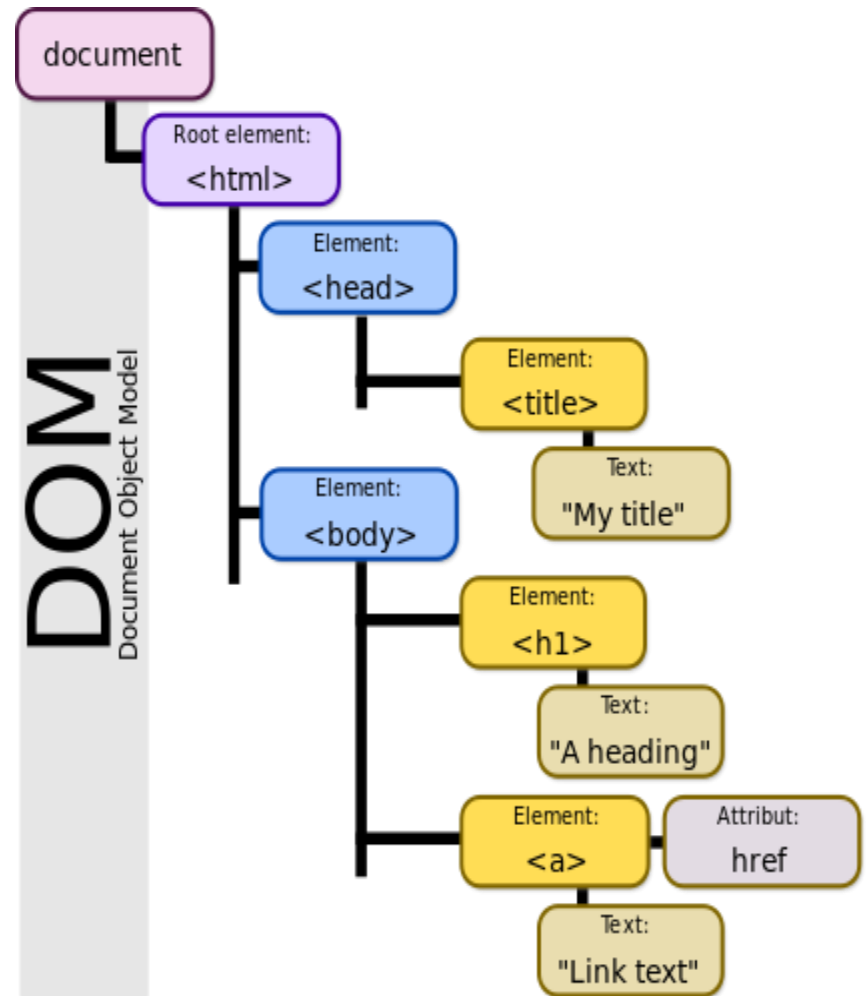
Advantage :

The script will be loaded before page is loaded

JavaScript and DOM

- The DOM (Document Object Model) is used in JavaScript to access the HTML documents.

- It organizes the entire html document in a *tree structure*

- The **document** object is a container for all the tags in a HTML page.

JavaScript and DOM

- ***document* object properties**

  – **bgcolor** (used to set background color of the page)

  –   Ex: **document.bgColor="yellow";**

  – **fgcolor** (used to set text color attribute of <body> tag)

    Ex: **document.fgColor="red";**

  – **title** (used to set the title of the document, which is usually done by the <title> tag)

  – Ex : **document.title="Hello World !";**

JavaScript and DOM

- ***document*** object methods

- **write()** : used to print contents onto a web page.

   Ex: **document.write("Welcome");**

- **getElementById()** : used to retrieve element with a specific id.

   Ex: **document.getElementById("msg").innerHTML = "Hello World";**
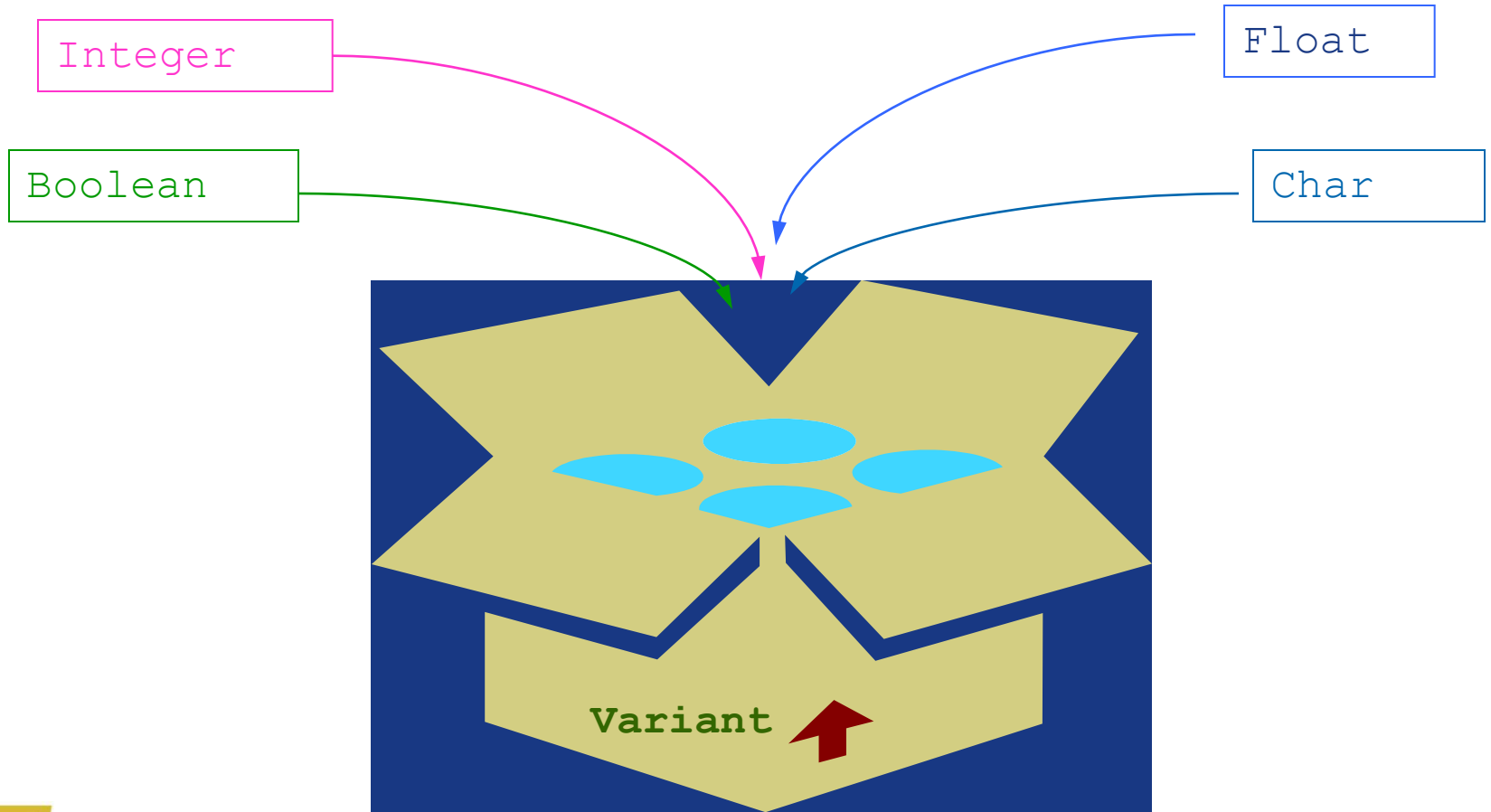
Java Script Variables

- Information is stored in variables.

- It's value can be change during the execution of script.

- It can be referenced by its name to see its value or to change its value.

- Data type supported **– Variant.**

- **Variant** can store any type of data.
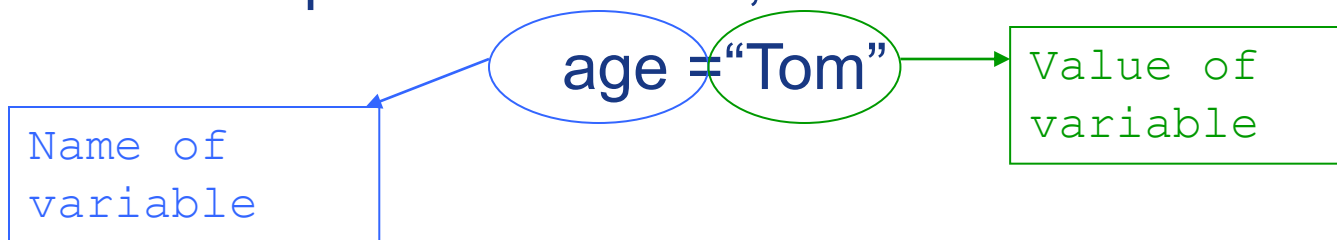
Variant

Integer

Float

Boolean

Char

Variant

Rules to name a variable

- Must begin with a letter
- Cannot contain a period (.)
- Cannot exceed 255 characters
- One variable cannot be used to store multiples values in a scope.

For example: var   name;

age ="Tom"

Name of variable

Value of variable

JS Control Structures

Control Structures

- Sequential execution
  - Statements execute in the order they are written
- Transfer of control
  - Next statement to execute may not be the next one in sequence
- Three control structures
  - Sequence structure
  - Selection structure
    - if
    - if...else
    - switch
  - Repetition structure
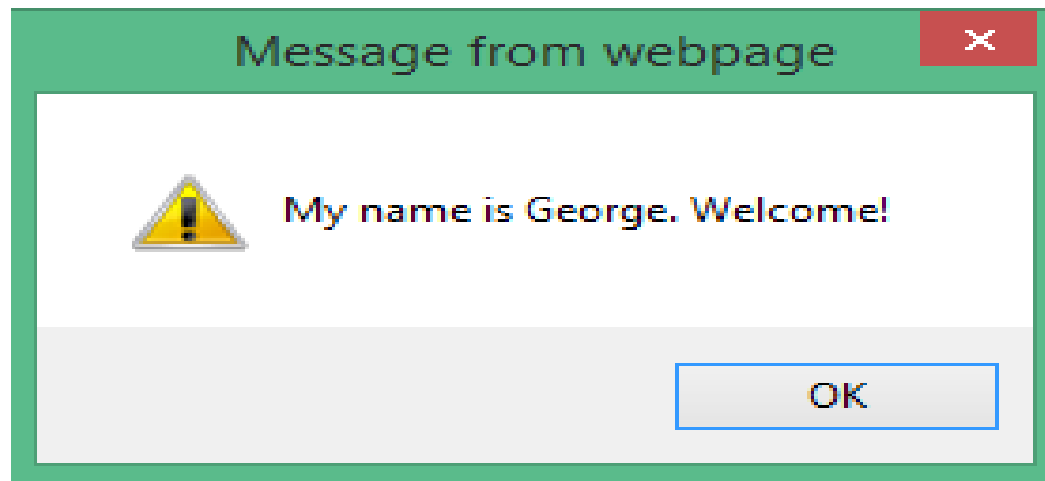   - while
    - do...while
    - for
    - for...in

Pop ups in JS

- There are three popup boxes supported by JavaScript

    - window.alert()

    - window.confirm()

    - window.prompt()

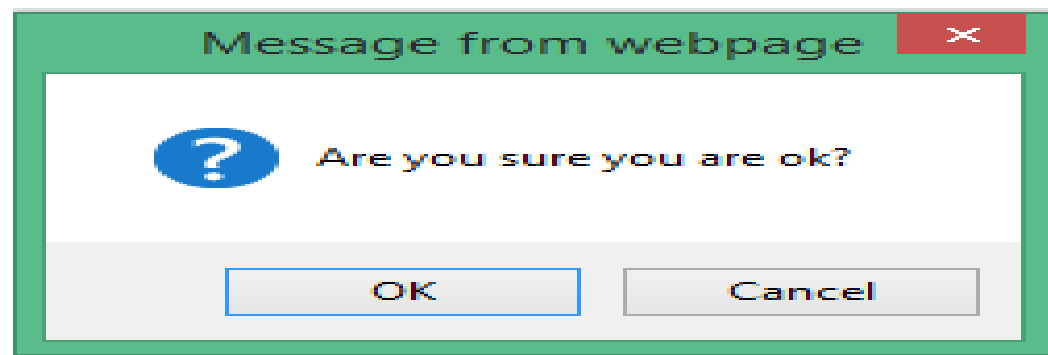# Alert in JS

```html
<body>
<script type="text/javascript">
window.alert("My name is George. Welcome!")
</script>
</body>
```

Message from webpage

⚠ My name is George. Welcome!

OK

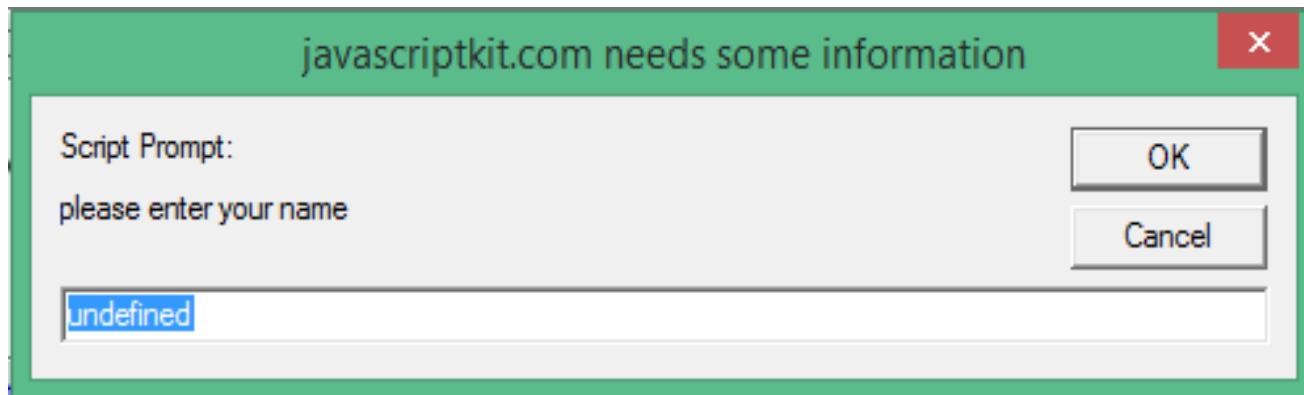# Confirm in JS

```html
<script type="text/javascript">

var x=window.confirm("Are you sure you are ok?")

if (x)

    window.alert("Good!")

else

    window.alert("Too bad")

</script>
```

Prompt JS

```
<script type="text/javascript">
var y=window.prompt("please enter your name")
window.alert(y)
</script>
```


javascriptkit.com needs some information

Script Prompt:
please enter your name

OK

Cancel

undefined

**Examples

JavaScript - Functions

- Usually are placed in <head> section

```html
<html>
    <head>

        <script type="text/javascript">
            function sayHello()
            {
                document.write ("Hello there!");
            }
        </script>

    </head>
    <body>
        <p>Click the following button to call the function</p>

        <form>
            <input type="button" onclick="sayHello()" value="Say Hello">
        </form>

        <p>Use different text in write method and then try...</p>
    </body>
</html>
```

Event delegation in JS

- Event : An action that is to be delegated upon user's interaction
  - Ex: onclick, onkeypress, onfocus, onblur etc.

```
<input type="button" onclick="sayHello()" value="Say Hello">
```

Element Event Name Function

**Example

JavaScript – Events

- onfocus : An event gets triggered when an element (textbox / button/radiobutton) is active

```
Enter your name: <input type="text" onfocus="showMsg()">


<script type="text/javascript">
    function showMsg() {
        alert("Hello!");
    }
</script>
```

JavaScript – Events

- onblur : An event gets triggered when an element (textbox / button/radiobutton) is inactive

```
Enter your name: <input type="text" id="fname" onblur="showMessage()">
```

```html
<script type="text/javascript">
    function myFunction() {
        alert("Bye!");
    }
</script>
```

JavaScript – Events

- onclick: An event gets triggered when mouse is clicked

```html
<button type="button"onclick="showMessage()">Click Me!</button>


<script type="text/javascript">
    function showMessage() {
        alert("Bye!");
}
</script>
```

JavaScript – Events

- onkeydown: An event gets triggered when key is being pressed(not released)

```
<input type="text" onkeydown="showMessage()">

<script type="text/javascript">
    function showMessage() {
        alert("You pressed a key!");
    }
</script>
```

JavaScript – Events

- onkeyup: An event gets triggered when key is released

```html
<input type="text" onkeyup="showMessage()">

<script type="text/javascript">
    function showMessage() {
        alert("You released a key!");
    }
</script>
```

JavaScript – Events

- onkeypress : An event gets triggered when a key is pressed and released

```
<input type="text" onkeypress="showMessage()">

<script type="text/javascript">
    function showMessage() {
    alert("You pressed a key!");
}

</script>
```