**DIFFERENCE BETWEEN DOCUMENT AND WINDOW OBJECT:**

JavaScript, as the scripting language for the web, operates within the context of a browser environment. Two fundamental objects in this environment are the window and document objects. Although they might seem similar, they serve distinct roles and play crucial roles in web development. In this blog post, we'll delve into the key differences between these two objects.

* **Window object:**
  + The window object is the topmost object of the DOM hierarchy. It represents a browser window or frame that displays the contents of the webpage. Whenever a window appears on the screen to display the contents of the document, the window object is created.
  + Window is the object of browser; **it is not the object of javascript.**
  + There are many properties of window object namely window.document, **window.console, window.location, window.defaultStatus.**
  + **There are many methods also which can be utilized in various ways like**

**Close(),moveTo(),open(),moveBy(),prompt().**

**SYNTAX (for properties):**

window.property\_name;

**SYNTAX (for methods):**

Window.method\_name;

**EXAMPLE:**

var globalVar = 'Hello';

console.log(window.globalVar);

**OUTPUT:**

'Hello'

***USES:***

* Global Scope:

The window object is synonymous with the global scope in JavaScript. All global variables and functions are properties and methods of the window object. For instance, if you declare a global variable or function, it becomes accessible through window.

* Browser Window Representation:

The window object represents the browser window or tab. It provides information about the browser's dimensions, location, and navigation history. Interaction with the browser, such as opening new windows or accessing the URL, is facilitated through the window object.

* Global Methods:

Several global methods, such as setTimeout() and setInterval(), are part of the window object. These methods are used for tasks like executing code after a delay or at regular intervals.

* **Document object:**
  + The document object represents a web page that is loaded in the browser. By accessing the document object, we can access the element in the HTML page. With the help of document objects, we can add dynamic content to our web page. The document object can be accessed with a window.document or just document.
  + There are many properties of window object namely baseURI, **charSet, activeElement, strictErrorChecking.**
  + **There are many methods also which can be utilized in various ways like**

**Close(),addEventListener(),open(),adoptNode(),normalize().**

**SYNTAX (properties):**

Document.property\_name;

**SYNTAX (methods):**

Document.method\_name:

**EXAMPLE:**

var headingElement = document.getElementById('mainHeading');

headingElement.textContent = 'New Heading';

**output:** accessing and modifying elements through the document object.

* ***USES:***
* **HTML Document Representation:**

The document object represents the HTML document loaded in the browser. It provides access to the structure of the document, allowing developers to manipulate its content through the DOM (Document Object Model).

* **DOM Interaction:**

The primary purpose of the document object is to interact with the DOM. It allows developers to select HTML elements, modify their content, and respond to events triggered by user actions. Methods like getElementById(), getElementsByClassName(), and querySelector() are commonly used with the document object.

* **Event Handling:**

Event handling within the HTML document, such as responding to user clicks or form submissions, is managed by the document object. Event-related methods like addEventListener() are used to attach functions that respond to specific events.

| **document** | **window** |
| --- | --- |
| It represents any HTML document or web page that is loaded in the browser. | It represents a browser window or frame that displays the contents of the webpage. |
| It is loaded inside the window. | It is the very first object that is loaded in the browser. |
| It is the object of window property. | It is the object of the browser. |
| All the tags, elements with attributes in HTML are part of the document. | Global objects, functions, and variables of JavaScript are members of the window object. |
| We can access the document from a window using the window. document | We can access the window from the window only. i.e. window.window |
| The document is part of BOM (browser object model) and dom (Document object model) | The window is part of BOM, not DOM. |
| Properties of document objects such as title, body, cookies, etc can also be accessed by a window like this window. document.title | Properties of the window object cannot be accessed by the document object. |
| syntax:        document.propertyname; | syntax:  window.propertyname; |
| example:       document.title :  will return the title of the document | example:  window.innerHeight : will return the height of the content area of the browser |

DIFFERENCE BETWEEN DOCUMENT AND WINDOW:

CONCLUSION:

while the ‘window’ and ‘document’ objects both play essential roles in JavaScript within a browser environment, they serve distinct purposes. The window object provides a global scope and represents the browser window, while the document object focuses on the HTML document's structure and facilitates interaction with its elements through the DOM. Understanding the differences between these objects is crucial for effective web development and DOM manipulation.