

LAB # 4

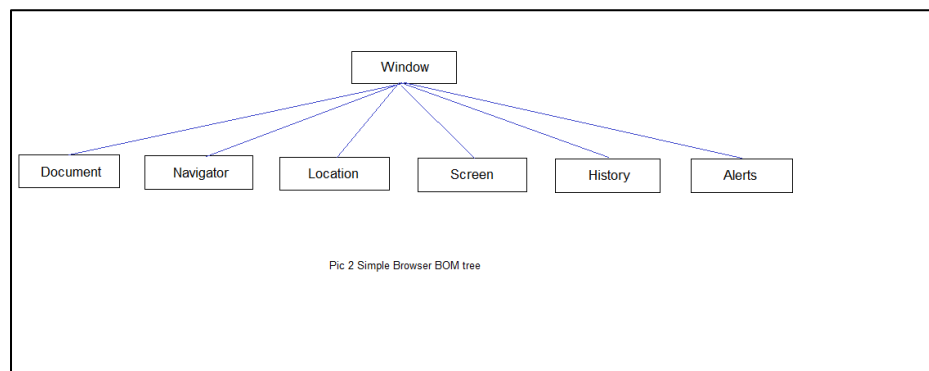
Browser Object Model [BOM]

OBJECTIVE

To learn what is BOM, and the APIs available for manipulating them.

THEORY

The Browser Object Model (BOM) is a browser-specific convention referring to all the objects exposed by the web browser. The BOM allows JavaScript to “interact with” the browser. The object of window represents a browser window and all its corresponding features. A window object is created automatically by the browser itself. JavaScript’s window.screen object contains information about the user’s screen. It can also be written without the window prefix. The default object of browser is window means you can call all the functions of window by specifying window or directly.



Window Object:

Method	Description
alert()	displays the alert box containing message with ok button.
confirm()	displays the confirm dialog box containing message with ok and cancel button.
prompt()	displays a dialog box to get input from the user.
open()	opens the new window.
close()	closes the current window.

setTimeout()	performs action after specified time like calling function, evaluating expressions etc.
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BOM – [Manipulating Browser Objects](#)

```
<!DOCTYPE html>
<html>
  <head>
    <title>Lab#4 – BOM</title>
  </head>
  <body>
    <div>
      <h1>Window</h1>
      <input type="button" value="Open window" onclick="openWindow()" />
    </div>

    <div>
      <h1>Location</h1>
      <input type="button" value="Goto Location" onclick="gotoLocation()" />
    </div>

    <div>
      <h1>Navigator</h1>
      <input type="button" value="Browser Name"
onclick="showBrowserName()" />
      <input type="button" value="Browser Language"
onclick="showBrowserLanguage()" />
    </div>

    <div>
      <h1>Screen</h1>
      <input type="button" value="Screen Size" onclick="showScreenSize()" />
      <input type="button" value="Screen Orientation"
onclick="showScreenOrientation()" />
    </div>

    <div>
      <h1>History</h1>
      <h3 style="color:red">Note: To move backward, first visit any site and
then load your page and click Backward button. To move forward, first load your page and then
visit any site and comeback to your page and click Forward button</h3>
      <input type="button" value="Forward" onclick="moveForward()" />
      <input type="button" value="Backward" onclick="moveBackward()" />
    </div>
  </body>
</html>
```

```
<script>
    //Open a new window and point it to google.com
    function openWindow(){

        //Ask from the user to enter delay before opening the window
        using window.prompt
        const delay = window.prompt('Enter the delay in seconds to wait
        before opening the window');

        //Wait 2 seconds (2000 milliseconds) using 'window.setTimeout'
        before opening the window
        window.setTimeout(function(){
            //Show the window using 'window.open'
            window.open('https://www.google.com');

            //Finally, show the message using 'window.alert' for
            success
            window.alert('New window has been opened');
        }, parseInt(delay) * 1000);
    }

    //Goto to location
    function gotoLocation(){

        //Ask the user to enter the url she wants to replace current page
        with
        const url = window.prompt('Enter the url to visit to (start with
        http(s)??');
        if(url){
            //Visit the url provided by the user within the same page
            using window.location
            window.location = url;
        }
    }

    //Show browser name
    function showBrowserName(){

        window.alert(window.navigator.appName);
    }

    //Show browser language
    function showBrowserLanguage(){

        window.alert(window.navigator.language);
    }
}
```

```
//Show screen size
function showScreenSize(){

    window.alert(`screen width: ${window.screen.width}, screen
height: ${window.screen.height}`);
}

//Show screen orientation
function showScreenOrientation(){
    window.alert(window.screen.orientation.type);
}

//Move forward in browser history from the current position
function moveForward(){
    window.history.forward();
}

//Move backward in browser history from the current position
function moveBackward(){
    window.history.back();
}

</script>
</body>
</html>
```

Output

Window

Location

Navigator

Screen

History

Note: To move backward, first visit any site and then load your page and click Backward button. To move forward, first load your page and then visit any site and comeback to your page and click Forward button

Window

Open window

Location

Goto Location

Navigator

Browser Name

Browser Language

Screen

Screen Size

Screen Orientation

History

Note: To move backward, first visit any site and then load your page and click Backward button. To move forward, first load your page and then visit any site and comeback to your page and click Forward button

Forward

Backward

This page says

Enter the delay in seconds to wait before opening the window

google.com

OK

Cancel

Window

Open window

Location

Goto Location

Navigator

Browser Name

Browser Language

Screen

Screen Size

Screen Orientation

History

Note: To move backward, first visit any site and then load your page and click Backward button. To move forward, first load your page and then visit any site and comeback to your page and click Forward button

Forward

Backward

This page says

Enter the url to visit to (start with http(s))?

https://www.google.com

OK

Cancel

Window

Open window

Location

Goto Location

Navigator

Browser Name

Browser Language

Screen

Screen Size

Screen Orientation

History

Note: To move backward, first visit any site and then load your page and click Backward button. To move forward, first load your page and then visit any site and comeback to your page and click Forward button

Forward

Backward

This page says

Netscape

OK

Window

Location

Navigator

Screen

History

Note: To move backward, first visit any site and then load your page and click Backward button. To move forward, first load your page and then visit any site and comeback to your page and click Forward button

This page says
en-US

OK

Window

Location

Navigator

Screen

History

Note: To move backward, first visit any site and then load your page and click Backward button. To move forward, first load your page and then visit any site and comeback to your page and click Forward button

This page says
screen width: 1536, screen height: 864

OK

Window

Location

Navigator

Screen

History

Note: To move backward, first visit any site and then load your page and click Backward button. To move forward, first load your page and then visit any site and comeback to your page and click Forward button

This page says
landscape-primary

OK

Lab Task

- 1 Copy the *Login Form* created in previous lab and update its OK button to
 - a. Create a *cookie* if *Remember Me* is set and save Student Id and Name
 - b. Show wait image on Login Form OK button click
 - c. Redirect to the *Student Profile* page after 2 seconds and remove the wait image

Home Task

1. Update the Student Profile page
 - a. If cookie is present
 - i. Retrieve the cookie and show student Name on top-right of the page
 - ii. Set the background page color to be light green, otherwise light gray
 - b. Add a new button alongside other buttons under the table called *Remove All New* for removing all the newly created courses (rows).
 - c. Create a *ul* list and using *window.history* API, find all the previous URLs visited and list them down using *li* items
 - i. If the URL of each history item contains the text Lab#2, highlight using green color, otherwise blue
 - d. Style all the Student Profile page links to remove the underline and add clickable images (use *img* tag inside *a* tag)