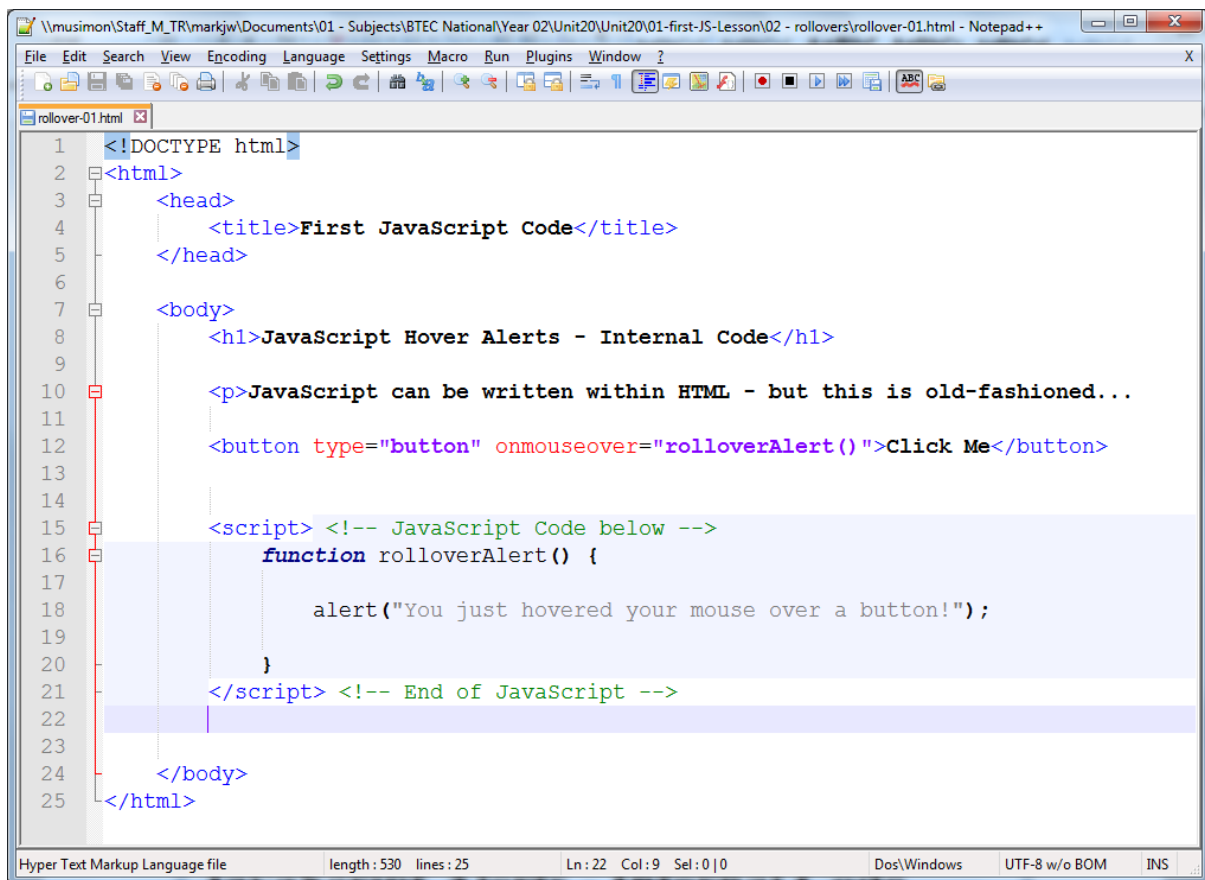


JavaScript – Rollover Scripts

Rollover JavaScript Code – Example 1

The first method of including JavaScript into our web pages we will investigate is by embedding code within our HTML.

1. Open a new html file and save it as **rollover-01.html** and save it to your javascript-tasks folder.
2. Next add the following code to the file:

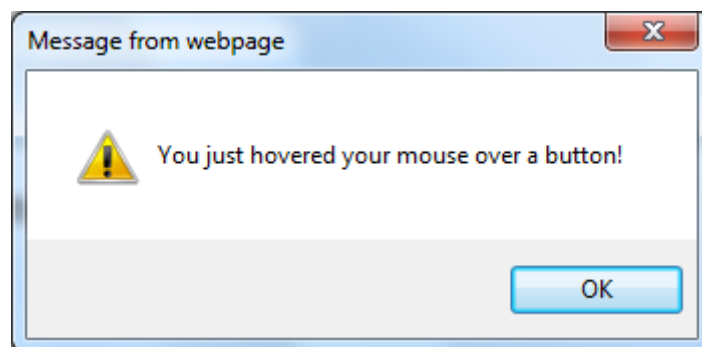


```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>First JavaScript Code</title>
5   </head>
6
7   <body>
8     <h1>JavaScript Hover Alerts - Internal Code</h1>
9
10    <p>JavaScript can be written within HTML - but this is old-fashioned...
11
12    <button type="button" onmouseover="rolloverAlert()">Click Me</button>
13
14    <script> <!-- JavaScript Code below -->
15      function rolloverAlert() {
16        alert("You just hovered your mouse over a button!");
17      }
18    </script> <!-- End of JavaScript -->
19
20  </body>
21 </html>
```

3. Save the file, then test it in a browser:



4. Hover your mouse point over the button and an alert box should display:

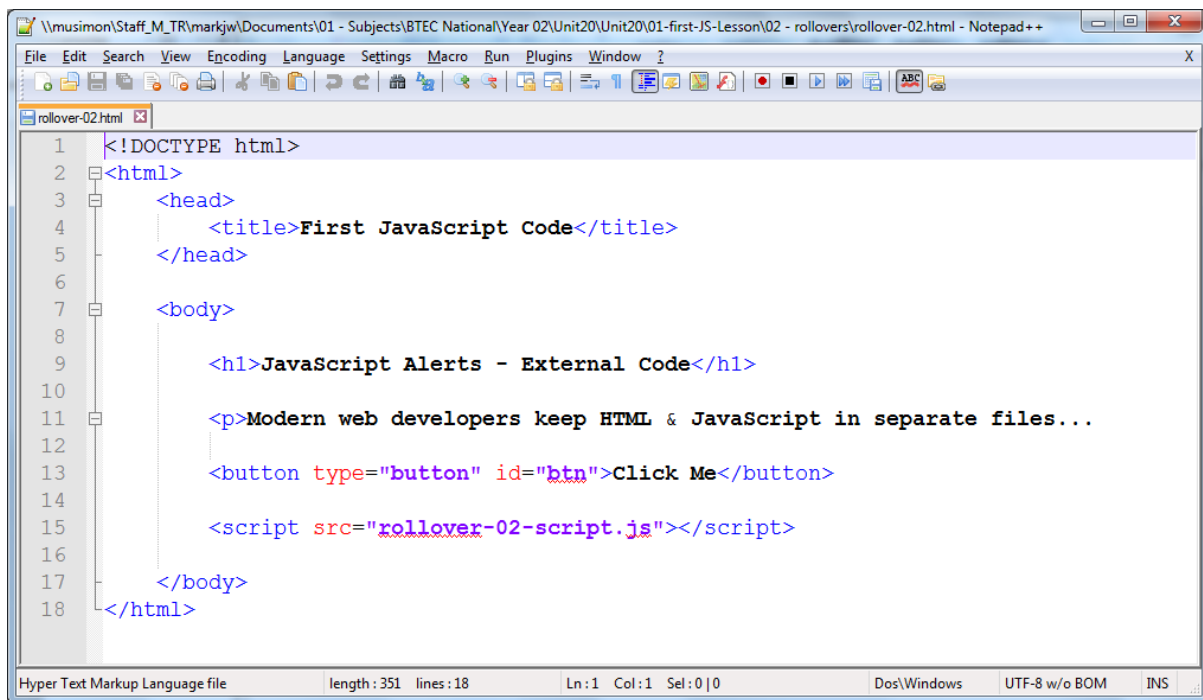


5. The key attribute for this code is the 'onmouseover' section, this tells the browser what code to run when a mouse pointer is hovered over the named area of the page.

External JavaScript

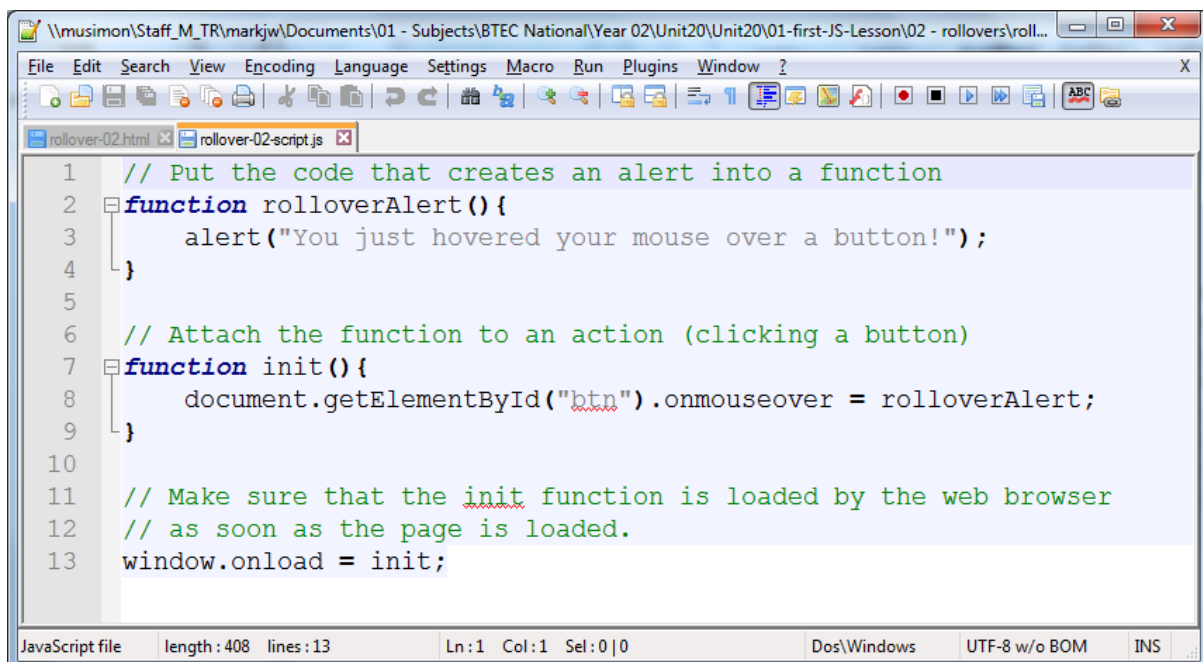
We will now make an external script which creates the same hover effect.

6. Open a new html file and save it as **rollover-02.html** and save it to your javascript-tasks folder.
7. Next add the following code to the file:



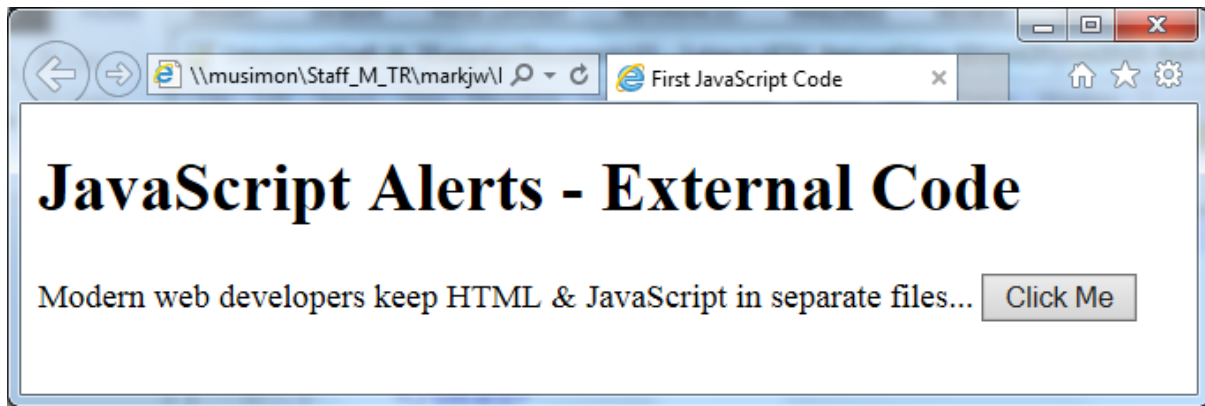
```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>First JavaScript Code</title>
5   </head>
6
7   <body>
8
9     <h1>JavaScript Alerts - External Code</h1>
10
11    <p>Modern web developers keep HTML & JavaScript in separate files...
12
13    <button type="button" id="btn">Click Me</button>
14
15    <script src="rollover-02-script.js"></script>
16
17  </body>
18 </html>
```

8. Create a new file in Notepad++, change the language to JavaScript and save the file as **rollover-02-script.js** ,then add the following code:

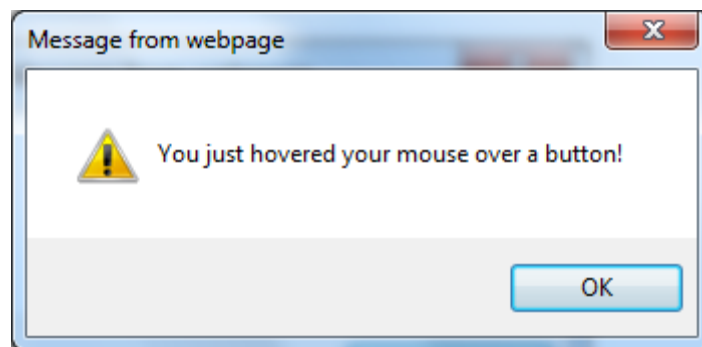


```
1 // Put the code that creates an alert into a function
2 function rolloverAlert(){
3   alert("You just hovered your mouse over a button!");
4 }
5
6 // Attach the function to an action (clicking a button)
7 function init(){
8   document.getElementById("btn").onmouseover = rolloverAlert;
9 }
10
11 // Make sure that the init function is loaded by the web browser
12 // as soon as the page is loaded.
13 window.onload = init;
```

9. Save all code and then run the **HTML** page:



10. Hover over the button to display the alert box:



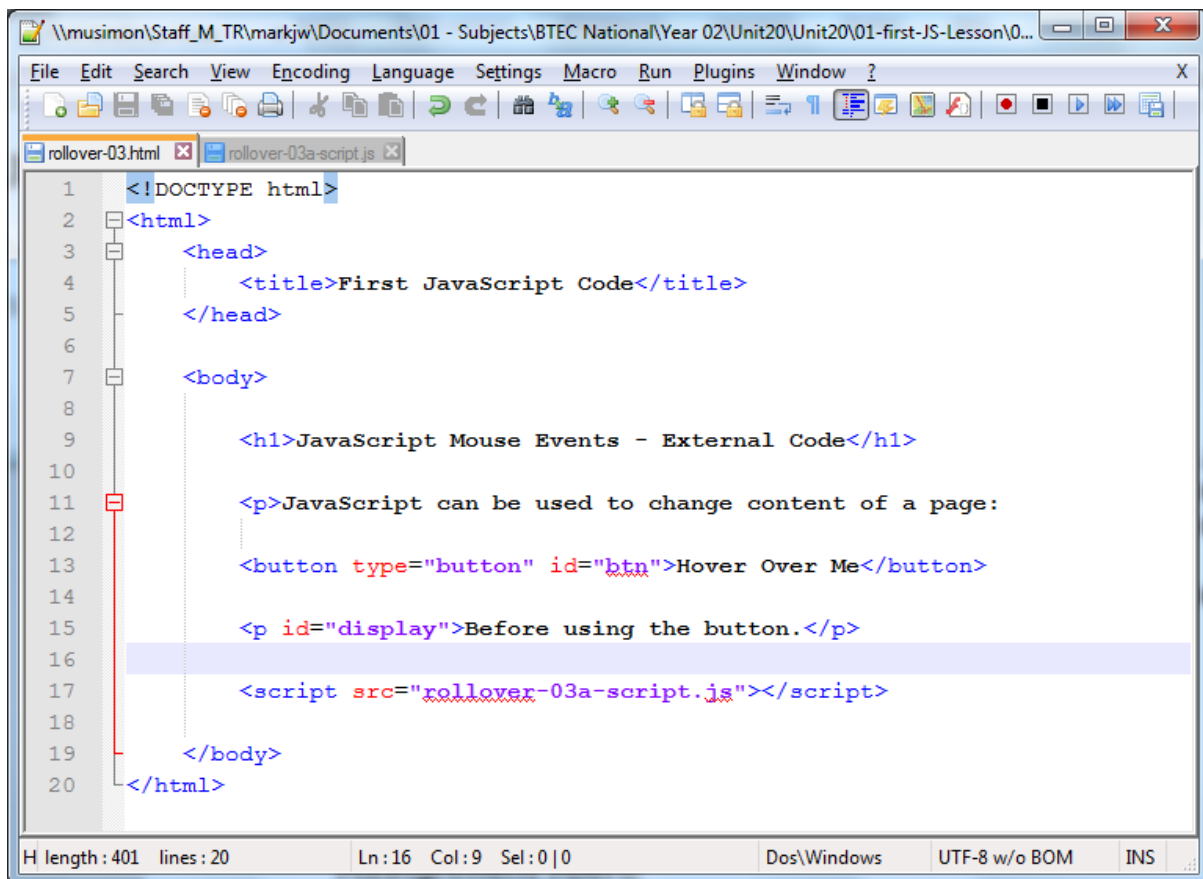
Both scripts create the same output (an alert box), when the user hovers the mouse over the button, but the external script creates the cleaner code.

Complete Rollover Example

The last example we will make today is a full rollover example – one that works when the mouse hovers over (onmouseover) and when the mouse is moved away (onmouseout).

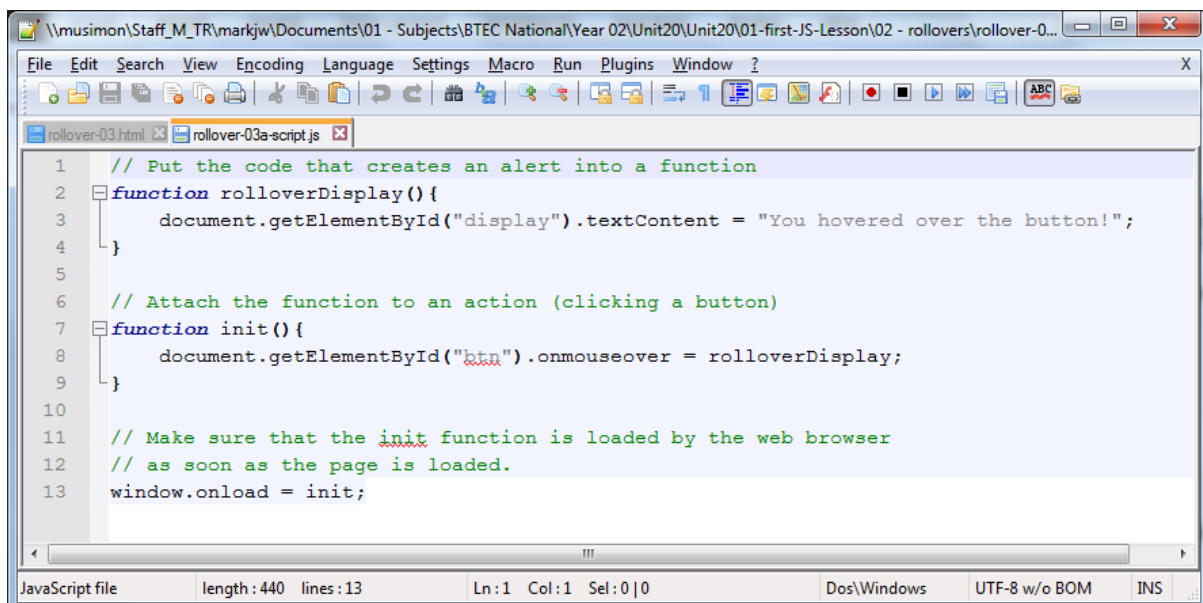
11. Open a new html file and save it as **rollover-03.html** and save it to your javascript-tasks folder.

12. Next add the following code to the file:



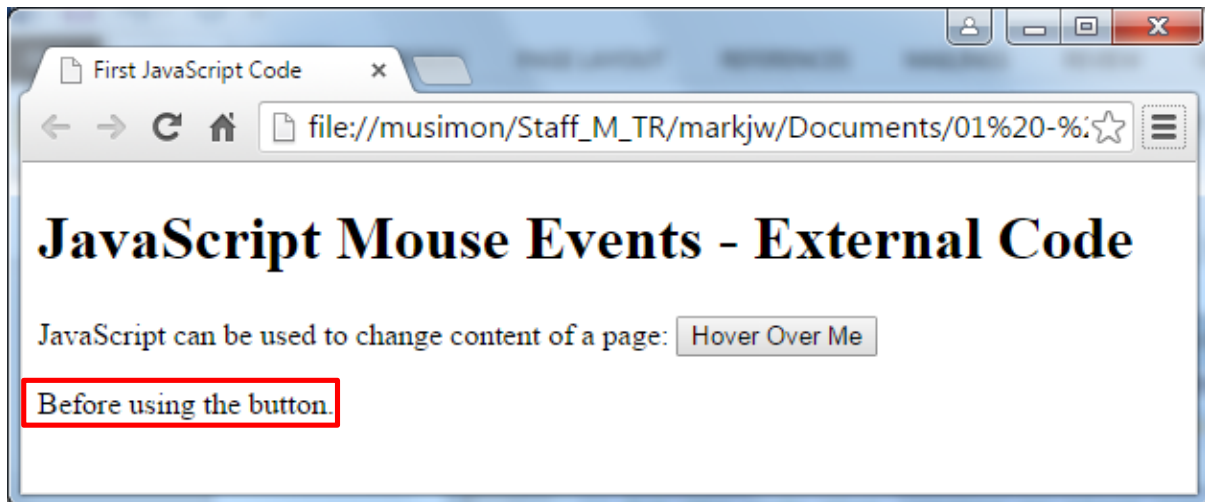
```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>First JavaScript Code</title>
5   </head>
6
7   <body>
8
9     <h1>JavaScript Mouse Events - External Code</h1>
10
11    <p>JavaScript can be used to change content of a page:
12
13    <button type="button" id="btn">Hover Over Me</button>
14
15    <p id="display">Before using the button.</p>
16
17    <script src="rollover-03a-script.js"></script>
18
19  </body>
20 </html>
```

13. Create a new file in Notepad++, change the language to JavaScript and save the file as **rollover-03-script.js**, then add the following code:

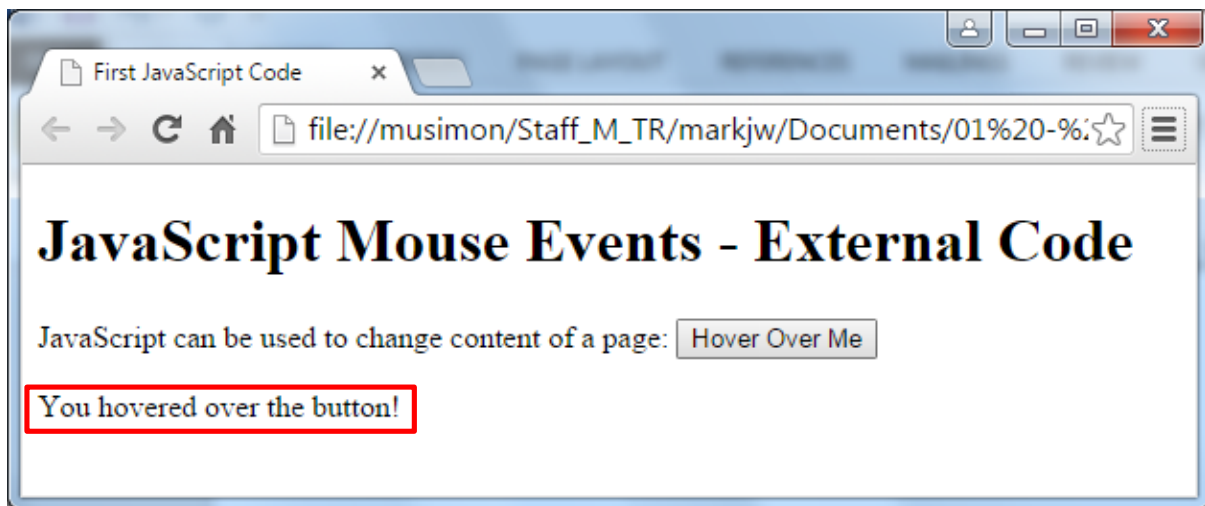


```
1 // Put the code that creates an alert into a function
2 function rolloverDisplay() {
3   document.getElementById("display").textContent = "You hovered over the button!";
4 }
5
6 // Attach the function to an action (clicking a button)
7 function init() {
8   document.getElementById("btn").onmouseover = rolloverDisplay;
9 }
10
11 // Make sure that the init function is loaded by the web browser
12 // as soon as the page is loaded.
13 window.onload = init;
```

14. Test the page and notice the changes before and after you hover over the button:

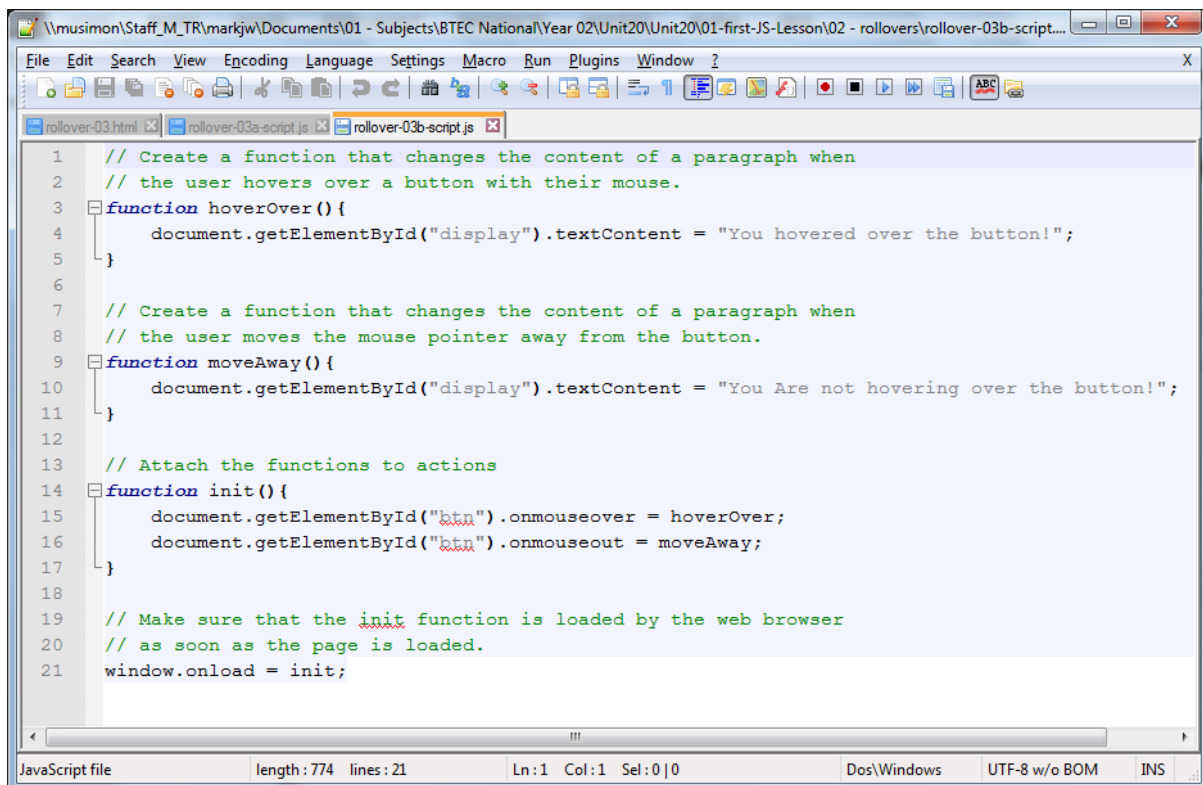


Before



After

15. Now update your JavaScript Code with:



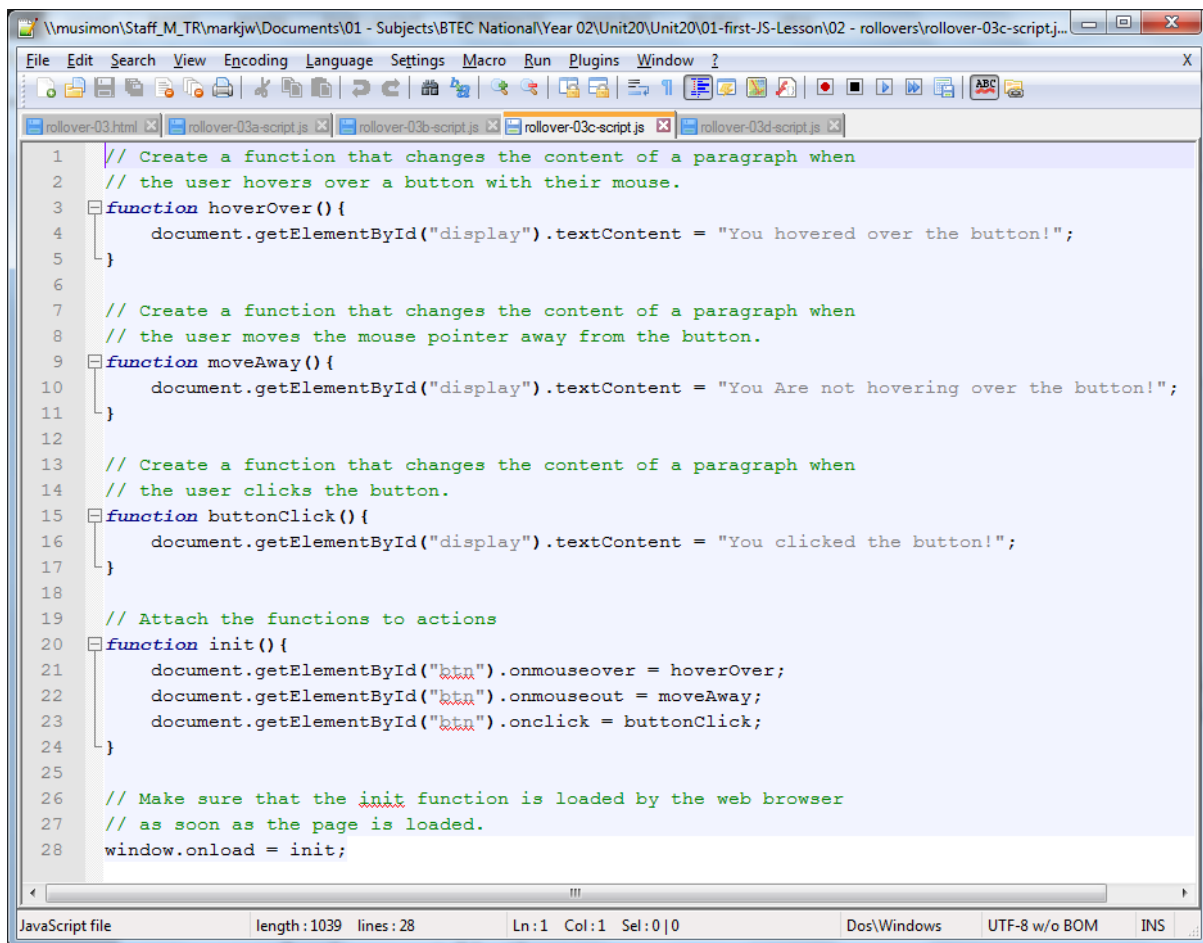
The screenshot shows a text editor window with the following JavaScript code:

```
1 // Create a function that changes the content of a paragraph when
2 // the user hovers over a button with their mouse.
3 function hoverOver() {
4     document.getElementById("display").textContent = "You hovered over the button!";
5 }
6
7 // Create a function that changes the content of a paragraph when
8 // the user moves the mouse pointer away from the button.
9 function moveAway() {
10    document.getElementById("display").textContent = "You Are not hovering over the button!";
11 }
12
13 // Attach the functions to actions
14 function init() {
15    document.getElementById("button").onmouseover = hoverOver;
16    document.getElementById("button").onmouseout = moveAway;
17 }
18
19 // Make sure that the init function is loaded by the web browser
20 // as soon as the page is loaded.
21 window.onload = init;
```

The status bar at the bottom indicates: JavaScript file, length: 774, lines: 21, Ln:1 Col:1 Sel:0|0, Dos\Windows, UTF-8 w/o BOM, INS.

16. Re-test the page, what happens?

17. Now update your code again:



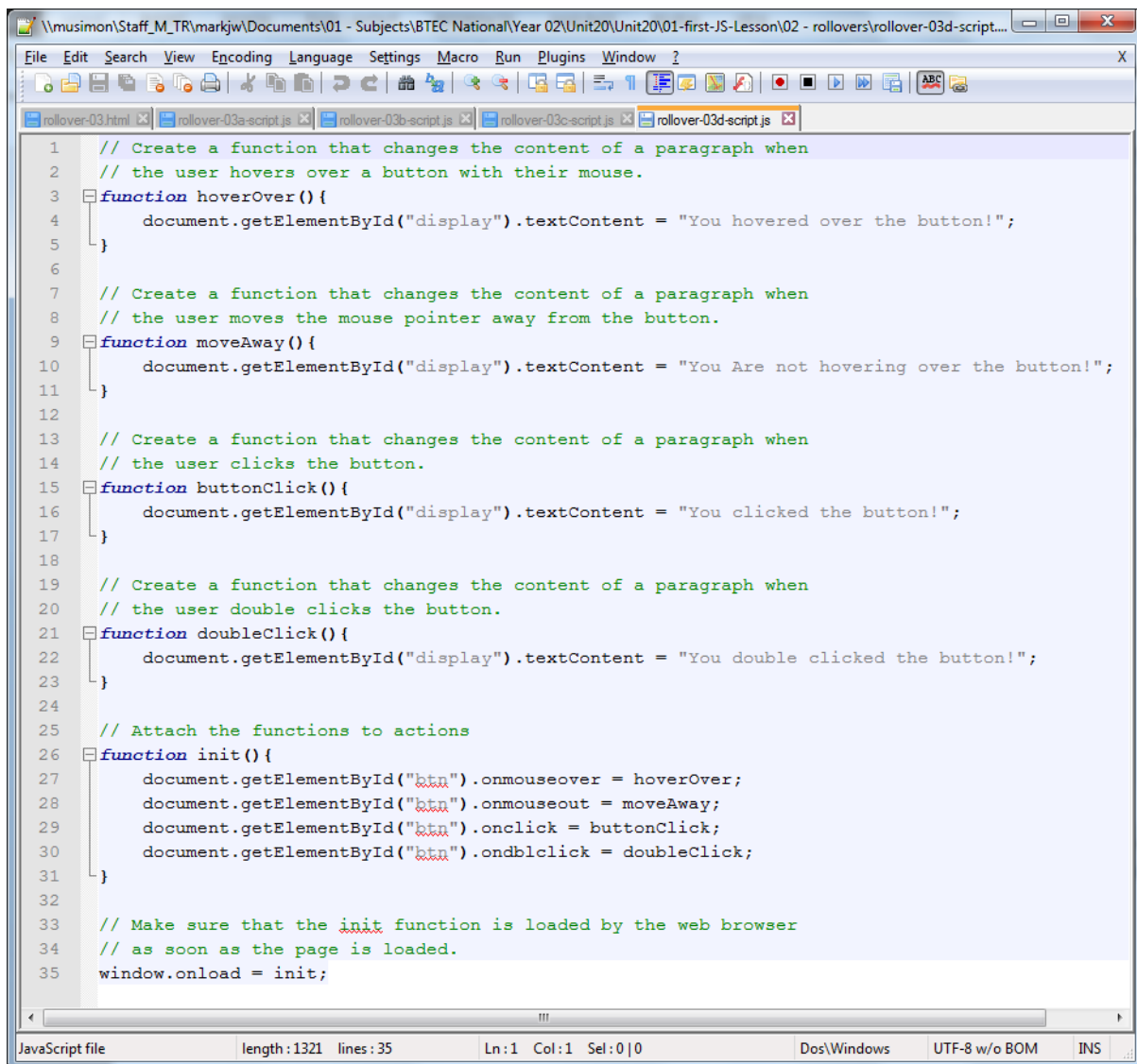
The screenshot shows a text editor window with the following JavaScript code:

```
1 // Create a function that changes the content of a paragraph when
2 // the user hovers over a button with their mouse.
3 function hoverOver() {
4     document.getElementById("display").textContent = "You hovered over the button!";
5 }
6
7 // Create a function that changes the content of a paragraph when
8 // the user moves the mouse pointer away from the button.
9 function moveAway() {
10     document.getElementById("display").textContent = "You Are not hovering over the button!";
11 }
12
13 // Create a function that changes the content of a paragraph when
14 // the user clicks the button.
15 function buttonClick() {
16     document.getElementById("display").textContent = "You clicked the button!";
17 }
18
19 // Attach the functions to actions
20 function init() {
21     document.getElementById("btn").onmouseover = hoverOver;
22     document.getElementById("btn").onmouseout = moveAway;
23     document.getElementById("btn").onclick = buttonClick;
24 }
25
26 // Make sure that the init function is loaded by the web browser
27 // as soon as the page is loaded.
28 window.onload = init;
```

The status bar at the bottom indicates: JavaScript file, length: 1039, lines: 28, Ln: 1, Col: 1, Sel: 0 | 0, Dos\Windows, UTF-8 w/o BOM, INS.

18. How has this changed the functionality of the page?

19. Update your code one more time:

A screenshot of a text editor window titled "rollover-03d-script...". The editor contains JavaScript code for a rollover effect. The code includes four functions: `hoverOver()`, `moveAway()`, `buttonClick()`, and `doubleClick()`. Each function updates the `textContent` of an element with ID "display". The `init()` function attaches these functions to a button element with ID "btn" using `onmouseover`, `onmouseout`, `onclick`, and `ondblclick` events. Finally, `window.onload = init;` ensures the functions are loaded when the page loads. The status bar at the bottom shows "JavaScript file", "length: 1321 lines: 35", "Ln: 1 Col: 1 Sel: 0 | 0", "Dos\Windows", "UTF-8 w/o BOM", and "INS".

```
1 // Create a function that changes the content of a paragraph when
2 // the user hovers over a button with their mouse.
3 function hoverOver() {
4     document.getElementById("display").textContent = "You hovered over the button!";
5 }
6
7 // Create a function that changes the content of a paragraph when
8 // the user moves the mouse pointer away from the button.
9 function moveAway() {
10     document.getElementById("display").textContent = "You Are not hovering over the button!";
11 }
12
13 // Create a function that changes the content of a paragraph when
14 // the user clicks the button.
15 function buttonClick() {
16     document.getElementById("display").textContent = "You clicked the button!";
17 }
18
19 // Create a function that changes the content of a paragraph when
20 // the user double clicks the button.
21 function doubleClick() {
22     document.getElementById("display").textContent = "You double clicked the button!";
23 }
24
25 // Attach the functions to actions
26 function init() {
27     document.getElementById("btn").onmouseover = hoverOver;
28     document.getElementById("btn").onmouseout = moveAway;
29     document.getElementById("btn").onclick = buttonClick;
30     document.getElementById("btn").ondblclick = doubleClick;
31 }
32
33 // Make sure that the init function is loaded by the web browser
34 // as soon as the page is loaded.
35 window.onload = init;
```

20. How has this changed the functionality?

Assignment Alert!

You will be required to create JavaScript code which is triggered by a range of events – can you remember from your first year studies what an event is? You will also need to use both pre-defined methods (functions) as write your own, custom methods for the upcoming assignment.

Points to Remember

- JavaScript can be implemented using both internal and external scripts.
- Modern web developers like to keep HTML, CSS and JavaScript code in separate files.
- We have used the following types of events in today's scripts:
 - Mouse hovering over an element – `onmouseover`.
 - Mouse hovering off an element – `onmouseout`.
 - Single left mouse click – `onclick`.

- Double left mouse click – ondblclick.
- The way in which methods are spelled is important – as is the use of upper and lower case names.
- We have predefined methods:
 - onmouseover,
 - onmouseout
 - onclick
 - ondblclick
- We have defined our own methods:
 - hoverOver
 - moveAway
 - buttonClick
 - doubleClick
- The `window.onload` statement is run once the web browser has loaded the page.
- Ensure that you use the correct comment format in code:
 - HTML → `<!-- HTML Comment -->`
 - CSS → `/* CSS Comment */`
 - JavaScript → `// JS Comment`