

**Course
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Test Series**

Introduction to 'JavaScript' Language

JavaScript Functions and Events

Module 9 - On Mouse Over and On Mouse Out in Javascript

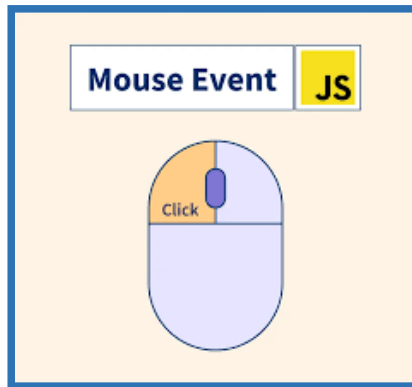
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Mouse Event

Mouse events are actions triggered by the user's interaction with a mouse, such as clicking, moving, pressing, or releasing the mouse button. JavaScript can detect these events and respond by running code.

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Mouse Over

Mouse over is when you move your mouse pointer over an element on a webpage, like a button or image.

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This triggers a JavaScript event called mouseover, which can be used to run code (like changing color or showing a tooltip).

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It helps create interactive and dynamic user experiences without clicking.

Why We Use mouseover in JavaScript:

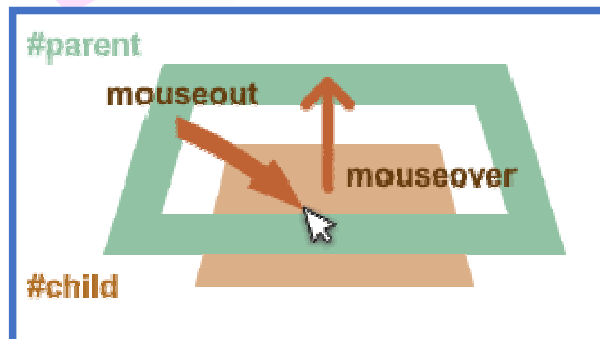
We use the mouseover event to make web pages interactive and responsive when a user hovers over an element.

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- Highlight Elements - Change color, size, or style when the user hovers.
- Show Tooltips or Info - Display extra information without clicking.
- Dropdown Menus - Open menus or submenus when hovered.
- Improve User Experience (UX) - Give visual feedback to guide users.

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Properties of Mouse Over

Property	Description
target	The element that triggered the event.
relatedTarget	The element the pointer came from (useful when tracking movement).
clientX	X-coordinate of the mouse pointer relative to the viewport.
clientY	Y-coordinate of the mouse pointer relative to the viewport.
pageX	X-coordinate relative to the whole page (includes scroll).
pageY	Y-coordinate relative to the whole page.
screenX	X-coordinate relative to the screen.
screenY	Y-coordinate relative to the screen.
altKey	true if the Alt key was pressed during the event.
ctrlKey	true if the Ctrl key was pressed.
shiftKey	true if the Shift key was pressed.
buttons	Mouse buttons pressed (0 = none, 1 = left button, etc.).

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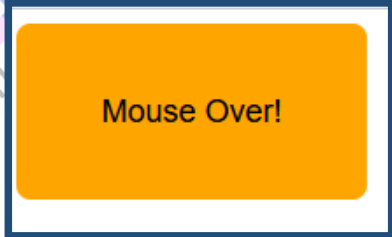
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Solved Example on Mouse Over

```

<!DOCTYPE html>
<html>
<head>
  <title>Mouse Over Example</title>
  <style>
    #box {
      width: 200px;
      height: 100px;
      background-color: lightblue;
      text-align: center;
      line-height: 100px;
      border-radius: 8px;
      font-family: Arial;
      font-size: 18px;
      transition: background-color 0.3s;
    }
  </style>
</head>
<body>
  <div id="box">Hover over me!</div>
  <script>
    const box = document.getElementById("box");
    box.addEventListener("mouseover", function() {
  
```



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```

box.textContent = "Mouse Over!";
box.style.backgroundColor = "orange";
});
</script>
</body>
</html>
    
```

When you move your mouse over the box, the text changes to "Mouse Over!" and the color turns orange.

Mouse Out

The mouseout event occurs when the mouse pointer leaves the area of an HTML element.

It is commonly used to reset styles or hide elements after a hover effect ends.

Why we used Mouse Out in JS

The mouseout event in JavaScript is used to detect when the mouse pointer leaves the area of an HTML element. It helps trigger specific actions like hiding tooltips or changing styles. This improves interactivity and user experience on web pages.

Properties of Mouse Out

Property	Description
target	The element the mouse left.
relatedTarget	The element the mouse entered after leaving the target (can be null).
clientX / clientY	Mouse coordinates relative to the viewport.
screenX / screenY	Mouse coordinates relative to the screen.
bubbles	true if the event bubbles up through the DOM.
cancelable	true if the default action can be prevented.
type	The type of the event ("mouseout").

Solved Example on Mouse Out

```

<!DOCTYPE html>
<html>
<head>
<title>Mouseout Example</title>
<style>
#box {
    
```

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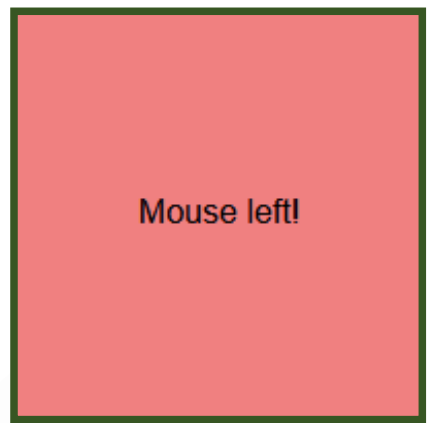
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```
width: 200px;
height: 200px;
background-color: lightblue;
text-align: center;
line-height: 200px;
font-family: Arial;
transition: background-color 0.3s;
}
</style>
</head>
<body>
<div id="box">Hover me!</div>
<script>
const box = document.getElementById('box');
// Change color on mouseout
box.addEventListener('mouseout', function() {
  box.style.backgroundColor = 'lightcoral';
  box.textContent = 'Mouse left!';
});
// Optional: reset on mouseover
box.addEventListener('mouseover', function() {
  box.style.backgroundColor = 'lightblue';
  box.textContent = 'Hover me!';
});
</script>
</body>
</html>
```

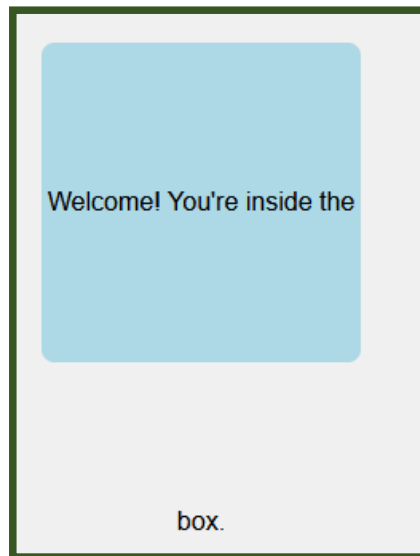


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Assignment

- Create a basic HTML page with a <div> element sized 200x200 pixels.
- Style the <div> using CSS to center it and give it a default background color.
- Use JavaScript to select the <div> using getElementById or similar method.
- Add a mouseover event listener to:
 - Change the background color (e.g., to blue).
 - Display the message: "Welcome! You're inside the box."
- Add a mouseout event listener to:
 - Change the background color (e.g., to red).
 - Display the message: "Goodbye! You left the box."
- Use textContent or innerHTML to dynamically update the message inside the box.



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