

The background of the slide is a light beige color. In the top left corner, there is a corkboard with a few papers pinned to it. In the center, there is a large, stylized illustration of a laptop. The laptop screen displays a website layout with a blue header, a main content area with a colorful bar chart, and a footer with three grey rectangular boxes. Surrounding the laptop are several colorful circles containing text: a blue circle with 'www', a red circle with 'HTML5', a red circle with 'js', a grey circle with 'Cloud', an orange circle with 'XML', and a green circle with 'PHP'. To the left of the laptop, there is a complex system of grey pipes and red mechanical components, including a pump and two gauges. The overall theme is web technologies and engineering.

ECAP472

WEB TECHNOLOGIES

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Learning Outcomes



After this lecture, you will be able to

- Understand where to place Script Tag
- Practical implementation of basic JavaScript code.

The <script> Tag

In HTML, JavaScript code is inserted between <script> and </script> tags.

Example

```
<script>
```

```
document.getElementById("demo").innerHTML = "My  
First JavaScript";
```

```
</script>
```

JavaScript Functions and Events

- A JavaScript function is a block of JavaScript code, that can be executed when "called" for.
- For example, a function can be called when an event occurs, like when the user clicks a button.

JavaScript in <head> or <body>

- You can place any number of scripts in an HTML document.
- Scripts can be placed in the <body>, or in the <head> section of an HTML page, or in both.

JavaScript in <head>

- In following example(next slide), a JavaScript function is placed in the <head> section of an HTML page.
- The function is invoked (called) when a button is clicked:

Example

```
!DOCTYPE html>
<html>
<head>
<script>
function myFunction() {
    document.getElementById("demo").innerHTML = "Paragraph changed.";
}
</script>
</head>
<body><h2>Demo JavaScript in Head</h2>

<p id="demo">A Paragraph</p>
<button type="button" onclick="myFunction()">Try it</button>

</body>
</html>
```

JavaScript in <body>

- In this example(next slide), a JavaScript function is placed in the <body> section of an HTML page.
- The function is invoked (called) when a button is clicked:

Example

```
<!DOCTYPE html>
<html>
<body>

<h2>Demo JavaScript in Body</h2>

<p id="demo">A Paragraph</p>

<button type="button" onclick="myFunction()">Try it</button>

<script>
function myFunction() {
    document.getElementById("demo").innerHTML = "Paragraph changed.";
}
</script>

</body>
</html>
```

External JavaScript

- External scripts are practical when the same code is used in many different web pages.
- JavaScript files have the file extension .js.
- To use an external script, put the name of the script file in the src (source) attribute of a <script> tag:
- Example
- `<script src="myScript.js"></script>`

Script tag

- You can place an external script reference in `<head>` or `<body>` as you like.
- The script will behave as if it was located exactly where the `<script>` tag is located.

External JavaScript Advantages

Placing scripts in external files has some advantages:

- It separates HTML and code
- It makes HTML and JavaScript easier to read and maintain
- Cached JavaScript files can speed up page loads

JavaScript Output

- JavaScript Display Possibilities
- JavaScript can "display" data in different ways:
 - Writing into an HTML element, using `innerHTML`.
 - Writing into the HTML output using `document.write()`.
 - Writing into an alert box, using `window.alert()`.
 - Writing into the browser console, using `console.log()`.

Using innerHTML

- To access an HTML element, JavaScript can use the `document.getElementById(id)` method.
- The `id` attribute defines the HTML element. The `innerHTML` property defines the HTML content

Using document.write()

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1>My First Web Page</h1>
```

```
<p>My first paragraph.</p>
```

```
<script>
```

```
document.write(5 + 6);
```

```
</script>
```

```
</body>
```

```
</html>
```

Using window.alert()

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1>My First Web Page</h1>
```

```
<p>My first paragraph.</p>
```

```
<script>
```

```
window.alert(5 + 6);
```

```
</script>
```

```
</body>
```

```
</html>
```


JavaScript Comments

- JavaScript comments can be used to explain JavaScript code, and to make it more readable.
- JavaScript comments can also be used to prevent execution, when testing alternative code.

Single Line Comments

- Single line comments start with `//`.
- Any text between `//` and the end of the line will be ignored by JavaScript (will not be executed).

Multi-line Comments

- Multi-line comments start with `/*` and end with `*/`.
- Any text between `/*` and `*/` will be ignored by JavaScript.



practical

That's all for
now...