TOPIC: CSS MEDIA QUERIES

WEEK: 2 & 3

COURSE INSTRUCTOR: ABDULLAH MAHMOOD

1. What Are Media Queries?

CSS **Media Queries** allow you to apply CSS rules based on device characteristics, such as screen **size, resolution, or orientation.** They are essential for **responsive design**.

SYNTAX:

```css
@media (media-feature) {
    /* CSS rules */
}
```

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1. For Devices

Device Type	Breakpoint Range	Media Query Syntax	Example Use Case
Extra Small Devices	`max-width: 480px`	`@media (max-width: 480px) { ... }`	For smartphones in portrait view. Single-column layouts, smaller text, etc.
Small Devices	`max-width: 768px`	`@media (max-width: 768px) { ... }`	For larger smartphones or tablets in portrait. Two-column layouts, adjust spacing.
Medium Devices	`max-width: 1024px`	`@media (max-width: 1024px) { ... }`	For tablets and small laptops. Three-column layouts, moderate font sizes.
Large Devices	`min-width: 1025px`	`@media (min-width: 1025px) { ... }`	For desktops and laptops. Four-column layouts, larger fonts, and detailed spacing.
Extra Large Devices	`min-width: 1200px`	`@media (min-width: 1200px) { ... }`	For large monitors. Maximum-width containers, six-column layouts.

DIFFERENCE BETWEEN MAX & MIN WIDTH

Key Differences:

Property	Behavior	Use Case
`max-width`	Applies styles when the width is **less than or equal to** the specified value.	For targeting smaller devices (phones, small tablets).
`min-width`	Applies styles when the width is **greater than or equal to** the specified value.	For targeting larger devices (tablets, laptops, desktops).

```html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4     <meta charset="UTF-8">
5     <meta name="viewport" content="width=device-width, initial-scale=1.0">
6     <title>Media Query Example</title>
7     <style>
8       .box {
9         padding: 20px;
10        text-align: center;
11        font-size: 18px;
12        color: white;
13      }
14
15      /* Default Style for Large Screens (larger than 1024px) */
16
17      /* Extra Small Devices (max-width: 480px) */
18      @media (max-width: 480px) {
19        .box {
20          background-color: lightblue; /* Blue for very small screens (phones) */
21        }
22      }
23
24      /* Small Devices (max-width: 768px) */
25
26      @media (min-width: 768px) {
27        .box {
28          background-color: rgb(43, 76, 13); /* Blue for very small screens (phones) */
29        }
30      }
31
32    </style>
33  </head>
34  <body>
35    <div class="box">Resize the screen to see the background color change!</div>
36  </body>
37  </html>
```

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· **What this does**: This media query targets devices that have a **maximum width of 480px** (usually small smartphones).

· **When the screen width is 480px or smaller**, the .box will have a **lightblue** background.

· **Use Case**: This is generally used for **phones** or smaller devices.

FOR 768 OR MORE …

• **What this does**: This media query targets devices with a **minimum width of 768px**, meaning it applies to devices that are **768px or wider**.

• **When the screen width is 768px or larger**, the `.box` will have a **greenish background** (`rgb(43, 76, 13)`).

• **Use Case**: This is typically used for **larger tablets, or desktop-sized devices**.