06

Responsive Designing

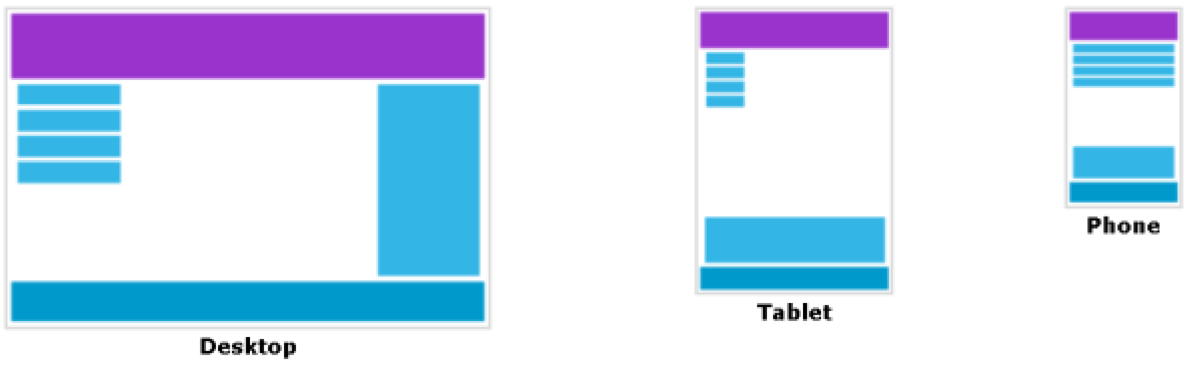
WHAT YOU WILL LEARN

- What is responsive Designing?
- What is The Viewport?
- What is a Media Query and Breakpoints?
- CSS Grid Layout
- CSS Flexbox Layout Module

What is responsive Designing?

- Responsive web design makes your web page look good on all devices.
- Responsive web design uses only HTML and CSS.
- Web pages can be viewed using many different devices: desktops, tablets, and phones. Your web page should look good and be easy to use.
- when you use CSS and HTML to resize, hide, shrink, enlarge, or move the content to make it look good on any screen.

Example –



What is Viewport?

- The viewport is the user's visible area of a web page.
- HTML5 introduced a method to let web designers take control over the viewport, through the <meta> tag.
- `<meta name="viewport" content="width=device-width, initial-scale=1.0">`
- This gives the browser instructions on how to control the page's dimensions and scaling.
- The `width=device-width` part sets the width of the page to follow the screen-width of the device

Viewport Rules:

- Do NOT use large, fixed width elements.
- Do NOT let the content rely on a particular viewport width to render well
- Use CSS media queries to apply different styling for small and large screens

What is a Media Query?

- Media query is a CSS technique introduced in CSS3.
- It uses the @media rule to include a block of CSS properties only if a certain condition is true.

-
  ```
  @media only screen and (max-width: 600px) {
    body {
      background-color: lightblue;
    }
  }
  ```

Add a Breakpoint

- Always Design for Mobile First - Mobile First means designing for mobile before designing for desktop or any other device (This will make the page display faster on smaller devices).

-
  ```
  /* Extra small devices (phones, 600px and down) */
  @media only screen and (max-width: 600px) {...}

  /* Small devices (portrait tablets and large phones, 600px and
  up) */
  @media only screen and (min-width: 600px) {...}

  /* Medium devices (landscape tablets, 768px and up) */
  @media only screen and (min-width: 768px) {...}

  /* Large devices (laptops/desktops, 992px and up) */
  @media only screen and (min-width: 992px) {...}

  /* Extra large devices (large laptops and desktops, 1200px and
  up) */
  @media only screen and (min-width: 1200px) {...}
  ```

- The CSS Grid Layout Module offers a grid-based layout system, with rows and columns, making it easier to design web pages without having to use floats and positioning.

- Display Property
  - An HTML element becomes a grid container when its `display` property is set to `grid` or `inline-grid`.
  - `display: grid;`

- Grid Row
- Grid Column
  - `grid-template-columns` : The grid-template-columns property defines the number of columns in your grid layout, and it can define the width of each column.
  - Example - `.grid-container {`
    ```
      display: grid;
      grid-template-columns: 80px 200px auto 40px;
    }
    ```

- Grid Gaps
  - `column-gap`
  - `row-gap`
  - `gap`
- Grid Lines
  - The lines between columns are called column lines.
  - The lines between rows are called row lines.
- Grid Container –
  - To make an HTML element behave as a grid container, you have to set the `display` property to `grid` or `inline-grid`.
  - Grid containers consist of grid items, placed inside columns and rows.

- Justify-content - The justify-content property is used to align the whole grid inside the container.

  -
    ```
    .grid-container {
      display: grid;
      justify-content: space-evenly;
    }
    ```

  -
    ```
    .grid-container {
      display: grid;
      justify-content: space-around;
    }
    ```

-
  ```
  .grid-container {
    display: grid;
    justify-content: space-between;
  }
  ```

-
  ```
  .grid-container {
    display: grid;
    justify-content: start;
  }
  ```

-
  ```
  .grid-container {
    display: grid;
    justify-content: end;
  }
  ```

➢ align-content - The `align-content property` is used to vertically align the whole grid inside the container.

-
  ```
  .grid-container {
    display: grid;
    height: 400px;
    align-content: center;
  }
  ```

-
  ```
  .grid-container {
    display: grid;
    height: 400px;
    align-content: space-evenly;
  }
  ```

-
  ```
  .grid-container {
    display: grid;
    height: 400px;
    align-content: space-around;
  }
  ```

-
  ```
  .grid-container {
    display: grid;
    height: 400px;
    align-content: space-between;
  }
  ```

-
  ```
  .grid-container {
    display: grid;
    height: 400px;
    align-content: start;
  }
  ```

-
  ```
  .grid-container {
    display: grid;
    height: 400px;
    align-content: end;
  }
  ```