* **The Internet**: A global network of interconnected computers. The web is a service that runs on the internet.
* **The Web**: A system of interlinked documents and resources accessed via browsers.
* **Differences**: The internet is the infrastructure; the web is content shared on this infrastructure.
* **The Cloud**: Remote servers where data is stored and accessed via the internet.
* **TCP/IP**: The fundamental communication protocol of the internet, ensuring data is sent and received properly.
* **Domain Name**: Human-readable addresses for websites (e.g., google.com).
* **DNS (Domain Name System)**: Translates domain names into IP addresses.
* **Inventors**: The Internet was developed by multiple researchers (notably DARPA); the web was invented by Tim Berners-Lee.
* **Control**: No single entity controls the entire internet.
* **Location**: The internet exists wherever there are connected devices globally.
* **Net Neutrality**: The principle that ISPs should treat all data equally without blocking or throttling.
* **Your Data**: Personal information, search history, cookies, and more are generated as you browse.
* **Who Can See Your Data?**: ISPs, websites, advertisers, and possibly government entities, depending on legal frameworks.

**2. File Organization**

* **Naming Conventions**: Use lowercase, no spaces, no special characters other than underscores or hyphens.
* **Relative Paths**: Link files based on their relative location to the current file (e.g., ../images/logo.png).
* **Absolute Paths**: Full URLs used to link files regardless of file location.

**3. HTML**

* **HTML Rules of Thumb**: Proper nesting, closing tags, and organizing code for readability.
* **Basic Tags**:
  + **Images**: <img src="path" alt="description">
  + **Hyperlinks**: <a href="URL">link text</a>
  + **Headers**: <h1>...</h1> to <h6>...</h6>
  + **iFrames**: Embedding content from another webpage using <iframe>.
  + **Semantic Tags**: Structural tags like <header>, <nav>, <section>, etc.
  + **Lists**: Ordered <ol> and unordered <ul>.
  + **Comments**: <!-- Comment -->
  + **Linking CSS**: In the <head> with <link rel="stylesheet" href="style.css">.
* **Head vs Body**: Metadata goes in <head>, visible content in <body>.

**4. CSS Basics**

* **CSS Rules of Thumb**: Keep your styles organized, avoid unnecessary repetition.
* **Selectors**:
  + **id**: #myElement { … }
  + **class**: .myClass { … }
  + **element**: h1 { … }
  + **descendent**: nav a { … }
  + **direct child**: nav > a { … }
* **Box Model**: width, height, padding, margin, border.
* **Color Properties**: color, background-color.
* **Font Properties**: font-family, font-weight, etc.
* **CSS Comments**: /\* comment \*/.

**5. CSS Media Queries**

* **Example**:

css

@media screen and (max-width: 800px) {

/\* Styles for screens 800px or smaller \*/

}

* **Viewport Meta Tag**: Helps adjust the display for mobile devices:

html

<meta name="viewport" content="width=device-width, initial-scale=1.0">

**6. Flexbox**

* **Container Properties**:
  + display: flex;
  + align-items: Positions flex items along the cross-axis.
  + justify-content: Aligns items along the main axis.
  + flex-direction: Defines the direction of the flex items (row, column).
  + flex-wrap: Controls wrapping of items.
* **Item Properties**: padding, margin, width, height, border.

**7. CSS Grid**

* **Container Properties**:
  + display: grid;
  + grid-template-rows: Defines row structure.
  + grid-template-columns: Defines column structure.
  + gap: Space between grid items.
* **Item Properties**:
  + grid-column-start, grid-column-end: Controls column span.
* **Considerations**: Color contrast, keyboard navigation, screen-reader compatibility.
  + **HTML for Accessibility**: Use proper semantic elements. Provide alt text for images. Use <label> elements for form controls.