

HTML Basics

Definition: HTML (HyperText Markup Language) is the standard language for creating web pages.

Key Points: - Structure of webpages - Uses elements, tags, and attributes - HTML5 adds semantic elements and multimedia support

Example 1:

```
<!DOCTYPE html>
<html>
  <head>
    <title>My Page</title>
  </head>
  <body>
    <h1>Hello World!</h1>
  </body>
</html>
```

Example 2:

```
<p>This is a paragraph.</p>
```

HTML Elements & Tags

Common Tags: - Headings: `<h1>` - `<h6>` - Paragraph: `<p>` - Lists: ``, ``, `` - Links: `text` - Images: `` - Tables: `<table>`, `<tr>`, `<td>`, `<th>` - Forms: `<form>`, `<input>`, `<textarea>`, `<button>`

Example 1:

```
<ul>
  <li>Item 1</li>
  <li>Item 2</li>
</ul>
```

Example 2:

```
<form>
  <input type="text" name="username" />
  <button>Submit</button>
</form>
```

Semantic HTML (HTML5)

Definition: Tags that define the meaning of content.

Examples: `<header>`, `<footer>`, `<article>`, `<section>`, `<nav>`

Example:

```
<header>
  <h1>Website Header</h1>
</header>
<nav>
  <a href="#home">Home</a>
  <a href="#about">About</a>
</nav>
```

CSS Basics

Definition: CSS (Cascading Style Sheets) styles the content of HTML pages.

Example 1 (Inline CSS):

```
<p style="color:blue; font-size:16px;">Hello CSS</p>
```

Example 2 (Internal CSS):

```
<head>
  <style>
    p { color: red; font-size: 18px; }
```

```
</style>
</head>
```

Example 3 (External CSS):

```
<link rel="stylesheet" href="styles.css">
```

CSS Selectors

- Element Selector: `p { ... }`
- ID Selector: `#header { ... }`
- Class Selector: `.menu { ... }`
- Grouping: `h1, h2 { ... }`
- Descendant: `div p { ... }`

Example:

```
#main { color: blue; }
.menu { font-size: 16px; }
```

CSS Box Model

Components: Margin, Border, Padding, Content

Example:

```
div {
  margin: 10px;
  padding: 5px;
  border: 2px solid black;
  width: 100px;
  height: 50px;
}
```

CSS Layout

Display: block, inline, inline-block, none **Position:** static, relative, absolute, fixed, sticky **Float:** left, right, none

Example:

```
.box { display: inline-block; width: 100px; }  
.fixed-header { position: fixed; top: 0; }
```

Flexbox

Definition: Flexible layout for aligning items in a container.

Example:

```
.container {  
  display: flex;  
  justify-content: space-between;  
  align-items: center;  
}
```

```
<div class="container">  
  <div>Item 1</div>  
  <div>Item 2</div>  
</div>
```

CSS Grid

Definition: 2D layout system.

Example:

```
.grid-container {  
  display: grid;  
  grid-template-columns: 1fr 2fr;
```

```
    grid-gap: 10px;
}
```

```
<div class="grid-container">
  <div>Item 1</div>
  <div>Item 2</div>
</div>
```

CSS Pseudo-classes & Pseudo-elements

Pseudo-classes: :hover, :focus, :first-child **Pseudo-elements:** ::before, ::after

Example:

```
button:hover { background-color: blue; }
p::first-letter { font-size: 20px; color: red; }
```

CSS Transitions & Animations

Transition Example:

```
div { transition: background 0.5s; }
div:hover { background: yellow; }
```

Animation Example:

```
@keyframes slide {
  from { transform: translateX(0); }
  to { transform: translateX(100px); }
}
div { animation: slide 2s infinite; }
```



Media Queries & Responsive Design

Example:

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



Top HTML & CSS Interview Questions

1. What is HTML & CSS?
2. Difference between HTML and HTML5?
3. Explain semantic elements.
4. Inline vs internal vs external CSS?
5. What is the box model?
6. Difference between relative, absolute, fixed, sticky?
7. Flexbox vs Grid?
8. Pseudo-classes and pseudo-elements?
9. How to make responsive design?
10. What are transitions & animations?

Prepared for study, interview, and revision purposes.