

WEB DEV TOPICS FROM PRACS

Great! Here's a detailed explanation of each practical question in simple language, using complete sentences, proper structure, examples, and clear use cases:

1. Create Web Page with HTML5 & CSS3

HTML5 is the latest version of the HyperText Markup Language used to create the structure of web pages. It includes new elements like <header>, <footer>, <article>, <section>, and <nav> that improve code readability and semantic tags and define parts of a web page more clearly.

CSS3 is the latest version of Cascading Style Sheets used to style and design web pages. It brings new features like rounded corners, shadows, gradients, transitions, and animations.

Example:

```
<!DOCTYPE html>

<html>

<head>

  <title>My First Web Page</title>

  <style>

    body {
```

```
    background-color: lightblue;
    font-family: Arial;
}
header {
    background-color: navy;
    color: white;
    padding: 10px;
    text-align: center;
}
</style>
</head>
<body>
    <header>Welcome to My Website</header>
    <p>This is a simple HTML5 and CSS3 example.</p>
</body>
</html>
```

Use Case: Creating the basic layout and visual design of any modern website like blogs, portfolios, or company sites.

2. Study anchor tag (<a> tag/Hyperlink) with other page and same page. Write an HTML page for Image Formatting. Use image as a Hyperlink.

The <a> tag is used to create hyperlinks. It can link to:

- Another page (href="page.html")
- Same page with an ID (href="#section")
- External website (href="https://www.google.com")

To use an image as a hyperlink, wrap the `` tag inside an <a> tag.

Example:

```
<a href="https://www.google.com" target="_blank">  
    
</a>
```

```
<a href="#bottom">Go to Bottom</a>
```

```
<h2 id="bottom">You are now at the bottom of the  
page.</h2>
```

Use Case: Useful for navigation between sections or redirecting users to other web pages or external websites.

3. Create HTML page with list and also some of nested list.

HTML provides three types of lists:

1. **Ordered List ()** - numbered list
2. **Unordered List ()** - bullet points
3. **Definition List (<dl>)** - term and description

Nested list means placing one list inside another.

Example:

```
<ul>
```

```
<li>Fruits
```

```
<ul>
```

```
<li>Apple</li>
```

```
<li>Banana</li>
```

```
</ul>
```

```
</li>
```

```
<li>Vegetables
```

```
<ol>
```

```
<li>Carrot</li>
```

```
<li>Broccoli</li>
```

```
</ol>
```

```
</li>
```

```
</ul>
```

Use Case: Useful for creating menus, outlining content, or showing steps or categories in a hierarchical way.

4. Create HTML page to study <form> tag and all form input tags.

The <form> tag is used to collect user input. It contains different input elements like textboxes, radio buttons, checkboxes, dropdowns, etc.

Example:

```
<form action="submit_form.php" method="post">
```

```
  Name: <input type="text" name="name"><br>
```

```
  Email: <input type="email" name="email"><br>
```

```
  Gender:
```

```
    <input type="radio" name="gender" value="male"> Male
```

```
    <input type="radio" name="gender" value="female">
```

```
  Female<br>
```

```
  Skills:
```

```
    <input type="checkbox" name="skill1" value="HTML">
```

```
  HTML
```

```
    <input type="checkbox" name="skill2" value="CSS">
```

```
  CSS<br>
```

```
  Country:
```

```
<select name="country">
  <option value="India">India</option>
  <option value="USA">USA</option>
</select><br>
<input type="submit" value="Submit">
</form>
```

Use Case: Used in registration forms, login forms, feedback forms, and data collection.

5. Create Simple HTML page with a <div> and tag.

Also understand the difference between div and span.

- <div> is a block-level element used to group large sections or blocks.
- is an inline element used to style small parts of text.

Example:

```
<div style="background-color: lightgray; padding: 10px;">
  <p>This is a block inside a div.</p>
</div>
```

```
<p>This is a <span style="color: red;">red colored
text</span> using span.</p>
```

Difference:

- div takes the full width by default and starts on a new line.
- span stays in line with text and does not break the layout.

Use Case: Use div for layout and structure; use span for inline text formatting.

6. Write a CSS using inline CSS, Embedded CSS, External CSS.

- **Inline CSS:** Applied directly inside an element using style attribute.
- **Embedded CSS:** Written inside `<style>` tag in the `<head>` section.
- **External CSS:** Written in a separate .css file and linked using `<link>` tag.

Example:

`<!-- Inline CSS -->`

`<p style="color: blue;">This is blue text.</p>`

`<!-- Embedded CSS -->`

`<head>`

`<style>`

```
h1 {  
    color: green;  
}  
</style>  
</head>
```

<!-- External CSS -->

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

Use Case: External CSS is used for large projects, embedded CSS for single page styles, and inline CSS for quick testing or small tweaks.

7. Study the concept of selectors (HTML tag selector, Class selector, ID selector).

CSS selectors are used to select and style HTML elements:

- **Tag Selector** styles all elements of a specific type.
- **Class Selector** styles elements with a specific class using `..`
- **ID Selector** styles an element with a specific id using `#`.

Example:

```
<style>  
  
p { color: red; }      /* Tag Selector */
```



```
.highlight { font-weight: bold; } /* Class Selector */  
#unique { font-size: 20px; } /* ID Selector */  
</style>
```

```
<p>This is red text.</p>
```

```
<p class="highlight">This is bold text.</p>
```

```
<p id="unique">This is unique size text.</p>
```

Use Case: Helps apply specific styles to particular elements based on their class or id.

8. Implement CSS 2.0 with all types: Background, Display, Font, Position, Text, Floating, Table, List properties.

CSS 2.0 properties are used for styling various aspects:

Example:

```
<style>  
  body { background-color: #f0f0f0; }  
  h1 { font-family: Arial; text-align: center; }  
  .box { width: 100px; height: 100px; background-color: red;  
float: left; margin: 10px; }  
  .list-style { list-style-type: square; }  
</style>
```

```
<h1>CSS 2.0 Demo</h1>
```

```
<div class="box"></div>
```

```
<ul class="list-style">
```

```
  <li>Item 1</li>
```

```
  <li>Item 2</li>
```

```
</ul>
```

Use Case: Used to enhance appearance, layout, and structure of webpages in all modern websites.

9. Implement Box Model using properties like Border, Margin, Padding, Height, and Width.

The CSS Box Model defines the layout and spacing of HTML elements:

- ✓ **Content:** The actual content like text or image.
- ✓ **Padding:** Space between content and border.
- ✓ **Border:** The outer line around the element.
- ✓ **Margin:** Space between elements.

Example:

```
<style>
```

```
.box {
```

```
width: 200px;
height: 100px;
padding: 10px;
border: 2px solid black;
margin: 20px;
}
</style>

<div class="box">Box Model Example</div>
```

Use Case: Important for positioning elements and controlling space in layouts.

10. How to apply Bootstrap to Application

What is Bootstrap?

Bootstrap is a **free, open-source CSS framework** created by **Twitter** developers. It helps in **quickly designing and developing** modern, **responsive**, and **mobile-first websites**. Bootstrap contains **predefined CSS classes, JavaScript functions**, and **components** that make web development faster and easier.

Key Features of Bootstrap:

✓ 1. Responsive Design:

- Automatically adjusts layout for desktop, tablet, and mobile devices.
- Uses a flexible **grid system**.

✓ 2. Mobile-First Approach:

- Pages are designed for mobile screens first, then larger ones.

✓ 3. Predefined CSS Classes:

- Ready-made classes for colors, spacing, borders, text, buttons, etc.

✓ 4. JavaScript Components:

- Includes interactive components like modals, tooltips, carousels, and dropdowns.

✓ 5. Cross-Browser Compatibility:

- Works well in all modern browsers like Chrome, Firefox, Edge, etc.

✓ 6. Customizable:

- Developers can override Bootstrap's default styles using their own CSS.

How to Use Bootstrap in a Webpage:

Using Bootstrap via CDN (recommended for beginners):

Paste this link in the <head> of your HTML file:

```
<link  
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css  
/bootstrap.min.css" rel="stylesheet">
```

And the JS part before closing </body>:

```
<script  
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/b  
ootstrap.bundle.min.js"></script>
```

□ Popular Bootstrap Components and Examples:

1. Buttons

```
<button class="btn btn-primary">Click Me</button>
```

- btn is a basic class for buttons.
- btn-primary gives blue styling (can be btn-success, btn-danger, etc.)

2. Alerts

```
<div class="alert alert-success">Form Submitted  
Successfully!</div>
```

- Used to show messages.
- Variants: alert-danger, alert-warning, alert-info.

3. Grid System

```
<div class="container">
```

```
<div class="row">
  <div class="col-md-6">Left</div>
  <div class="col-md-6">Right</div>
</div>
</div>
```

- Creates a layout with rows and columns.
- col-md-6 means half width on medium or larger screens.

4. Navbar

```
<nav class="navbar navbar-expand-lg navbar-dark bg-dark">
  <a class="navbar-brand" href="#">MySite</a>
</nav>
```

- Creates a navigation bar.
- navbar-dark bg-dark styles it with dark background and white text.

Advantages of Using Bootstrap:

- Saves time with ready-made styles and components.
- Helps create **professional-looking layouts** easily.
- Ensures **consistency** across different web pages.
- Reduces the need to write custom CSS from scratch.
- Makes websites **responsive** automatically.



Bootstrap-Related Exam Questions (with simple answers):

Got it! Here's a **shorter, focused list of the most common and commonly asked Bootstrap questions:**

Bootstrap-Related Questions (Shortened Version):

1. Q: **What is Bootstrap and why is it used?**

A: Bootstrap is a free, open-source CSS framework used to build responsive, mobile-first websites quickly using pre-designed components and grid systems.

2. Q: **How do you include Bootstrap in an HTML file?**

A: You can add Bootstrap by linking its CSS and JS files via a CDN:

<link

href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet">

<script

src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>

3. Q: **What is the difference between container and container-fluid in Bootstrap?**

A: container is for a fixed-width layout, while container-fluid makes the layout full-width, spanning the entire screen width.

4. Q: **How does the Bootstrap grid system work?**

A: The grid system uses columns (col-) inside a row (row). You can specify how many columns a section should span using classes like col-md-6 for a 50% width.

5. Q: **How do you create a button in Bootstrap?**

A: Buttons are created with the btn class, and you can use additional classes like btn-primary, btn-success, etc., to style them:

```
<button class="btn btn-primary">Click Me</button>
```

6. Q: **How do you create a navbar in Bootstrap?**

A: A basic responsive navbar is created using navbar, navbar-expand-lg, and other relevant classes:

```
<nav class="navbar navbar-expand-lg navbar-dark bg-dark">
```

```
<a class="navbar-brand" href="#">Brand</a>
```

```
</nav>
```

These are the **core, commonly asked Bootstrap questions** that cover the essentials. Let me know if you'd like any further detail on these!