

5-Day Practical Bootcamp: 50 HTML & CSS Application Problems

Day 1 — Semantic Structure & Page Layout Foundations

Learning goals: - Use correct semantic tags (header, nav, main, section, article, aside, footer). - Build common page shells with Flexbox & simple Grid. - Apply consistent typography, spacing, and color systems.

Very Detailed Problem Statements (1–10)

1. Personal Portfolio Splash

- Create `index.html` and `styles.css`.
- Must have `<header>` with a site logo (can be text in `<h1>`) aligned left and navigation links (`<nav>` with an unordered list) aligned right.
- Hero section in `<main>` with two columns: left column has name (`<h1>`), tagline (`<p>`), and two `<a>` buttons styled with `.btn`; right column has a profile ``.
- Use Flexbox to create two-column layout; on screen widths $\leq 480\text{px}$, stack columns vertically.
- Buttons must have `:hover` and `:focus` states with color changes. Use CSS variables for colors and font sizes.
- `<footer>` at bottom with © text and links to social media.

2. Restaurant Landing Page

- Sticky `<nav>` at the top with links (*Home, Menu, About, Reservations*). Navigation links must have `:hover` underline effect.
- Hero `<section>` with a full-width banner ``; overlay restaurant name (`<h1>`) and tagline using positioned text.
- Three menu highlight cards in a `<section>` with CSS Grid (3 columns desktop, 1 column mobile). Each card must have an ``, `<h3>`, and `<p>`.
- Separate `<section>` for restaurant hours (use definition list `<dl>`) and location (text + map placeholder `<div>` with border).
- Prominent “Reserve a Table” button styled with `.btn--primary` class. On print, hide all images with `@media print`.

3. Conference One-Pager

- `<header>` with event title in `<h1>` and date in `<p>`.
- Agenda section with CSS Grid: left column for time, right column for session name. Minimum 5 sessions.
- Speakers section: a Grid of cards (2–3 columns) with equal card heights. Each card: speaker `` (circular with `border-radius: 50%`), `<h3>` name, `<p>` bio.
- Venue section: include `<address>` tag with location, and a placeholder `<div>` for map.

- Add a visually hidden “Skip to main content” link at the top (.skip-link).

4. Simple Blog Layout

- Homepage showing at least 4 blog posts. Each post uses `<article>` containing an `` thumbnail, `<h2>` title, `<p>` metadata (author and date), and short excerpt.
- Articles must be arranged in 2 columns on desktop using Grid; stack to 1 column on screens `<768px`.
- Sidebar `<aside>` listing blog categories inside ``.
- Footer with navigation links for “Previous” and “Next.”
- Ensure article titles are linked using `<a>` to a placeholder URL.

5. Company “About” Page

- Mission statement in `<section>` with `<h2>` and supporting text.
- Team section: Grid of 4 team member cards, each containing `` avatar (circular), `<h3>` name, `<p>` role.
- Timeline section: horizontal Flexbox row with at least 4 milestones. Each milestone shows `<h4>` year and `<p>` description.
- Ensure all `` have meaningful alt text (e.g., “CEO portrait”).
- Footer with company contact info.

6. Product Feature Page

- `<main>` includes `<section>` for specifications using `<dl>` with terms (`<dt>`) and details (`<dd>`).
- A `<table>` with caption “Product Comparison” showing 3 models (columns) vs features (rows). Apply zebra striping on rows and highlight “Recommended” column with different background.
- Table headers must use `<th scope="col">` and `<th scope="row">` for accessibility.
- At least 5 comparison features included.

7. Travel Destination Page

- Hero `<section>` with full-width destination banner `` and `<h1>` heading.
- Photo gallery `<section>` with at least 6 images arranged in CSS Grid mosaic. Some images should span 2 columns/rows.
- Each `<figure>` must include an `` and `<figcaption>` with descriptive text.
- Gallery must collapse gracefully: 3 columns desktop, 2 tablet, 1 mobile.

8. Artist Portfolio Gallery

- Header with artist name in `<h1>`.
- Filter bar using `<nav>` containing category buttons styled as toggle chips (Painting, Photography, Digital). Each button uses `aria-pressed` for accessibility.
- Gallery with CSS Grid (3–4 columns) where each item is a `<figure>` containing `` and `<figcaption>`.
- Images must maintain consistent aspect ratio using CSS `aspect-ratio`.

- On mobile, gallery must show 1 column.

9. **Non-Profit Campaign Page**

- Hero section with campaign slogan in `<h1>` and background color.
- Impact section: list of stats (e.g., meals served, families helped) implemented with CSS counters inside ``.
- Donation tier section: 4 cards arranged in Flexbox row. Each card has `<h3>` tier name, `<p>` description, and styled price label.
- Button “Donate Now” must appear in each card, styled consistently.
- Ensure equal spacing (padding and margin) across all cards.

10. **University Department Page**

- Breadcrumb `<nav aria-label="breadcrumb">` with ordered list showing path (Home > Departments > Computer Science).
 - Academic programs section listing at least 3 programs. Each program uses `<article>` with `<h3>` title and `<p>` description.
 - Utility nav at top with links: Student Login, Library, Contact.
 - Footer must have 3 columns: Admissions, Faculty, Contact info.
 - Page must be fully responsive: 3 columns desktop, stacked on mobile.
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