

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

Day 5 — Accessibility, Real- World Pages & Capstone Polish

Learning goals: - Apply end- to- end accessibility: landmarks, keyboard navigation, contrast, semantics, alt text, aria patterns. - Combine Grid/Flex, forms, tables, media, and print styles into realistic pages. - Ship polished, portfolio- ready static builds.

Very Detailed Problem Statements (41–50)

41. Accessible Navigation System

- Files: `index.html`, `styles.css`.
- Landmarks: `<header>`, `<nav aria-label="Primary">`, `<main id="main">`, `<footer>`.
- Provide a “Skip to content” link that becomes visible on focus and targets `#main`.
- Primary nav contains 5 links (Home, About, Services, Blog, Contact) as an unordered list. One item must indicate current page using `aria-current="page"` and a visual style.
- Mobile pattern (no JS): use `<details class="nav">` with `<summary>` labeled “Menu”. On $\geq 768\text{px}$, force it open with CSS and hide the summary while preserving keyboard access.
- Focus styles: use `:focus-visible` with a 2–3px outline that meets contrast ratio; avoid removing outlines.
- Responsive: sticky header at top; nav collapses into a vertical menu under the summary on $< 768\text{px}$.
- Include breadcrumb `<nav aria-label="Breadcrumb">` above `<main>` showing “Home › Section › Current” using an ordered list. Separator is purely decorative via CSS `::before`.
- Icons used (if any) must have `aria-hidden="true"` and not be the only cue for meaning.
- Print: hide header/nav/breadcrumb; keep main content.

42. City Tourism Microsite (3 Sections)

- Page purpose: promote a city with sections for Landmarks, Food, and Events.
- Hero: `<section>` with city name `<h1>`, short intro paragraph, and a representative `<picture>` using two `<source>` breakpoints (mobile and desktop crops). Provide meaningful alt for `` fallback.
- In- page nav: a secondary `<nav aria-label="Section">` with anchor links to `#landmarks`, `#food`, `#events`. Use `scroll-margin-top` so headings don’t hide under the sticky header.
- Section structure: each `<section>` must have `<h2>` and a card grid using `repeat(auto-fit, minmax(240px, 1fr))`.

- Cards: `<figure>` with image and `<figcaption>`; include a 2- line title and short description; ensure equal internal spacing with a tokenized spacing scale.
- Events list must include `<time datetimes="YYYY-MM-DD">` for each event date.
- Accessibility: ensure all links have descriptive text (avoid “click here”); provide a “Back to top” link at the end of each section.
- Footer: contact info and small print; ensure external links have `rel="noopener"` in markup even if they are placeholders.

43. **Non- Profit Donation Page (Static)**

- Structure: `<header>` (logo + breadcrumb), `<main>` with two columns on ≥ 992 px: left is donation form, right is impact stories.
- Form title `<h1>` “Donate to [Cause]”.
- Amount selection: radio group with amounts ₹500, ₹1,000, ₹2,500, ₹5,000 and an “Other” option. Each radio has a visible label; radios share a name.
- “Other amount” text input appears inline below its radio in markup (always visible for this exercise) with `inputmode="numeric"` and placeholder “Enter amount”.
- Frequency radios: One- time, Monthly. When Monthly selected (visual only), show a static note below (“You can cancel anytime”).
- Contact fields: Name (required), Email (required, `type=email`), PAN (optional).
- Consent: required checkbox “I agree to the privacy policy”. Provide the policy link.
- Button row: Primary “Donate now” and Secondary “Save for later” styles.
- Impact stories: 3 cards each with a photo, heading, and 2–3 line blurb; photos have descriptive alt.
- Accessibility: field hints via `aria-describedby`, error containers `.error[role="alert"]` in markup (hidden by default), visible `:focus-visible`.
- Print: hide impact column; show form in single column with black text on white background.

44. **University Course Syllabus Page**

- Header with university mark and course code/title as `<h1>`.
- Instructor section: photo `` with `alt="Portrait of ..."`, name, email (`mailto:` link), office hours.
- Course summary: objectives in ``, prerequisites in ``, outcomes in ``.
- Weekly schedule: a table with `<caption>Weekly Topics</caption>`, header row of Week/Topic/Readings/Deliverables. Use `<th scope="col">` and `<th scope="row">` in the first column.
- Policies and sections (Assessment, Attendance, Academic Integrity) must use `<details>` with `<summary>` headings to allow collapse/expand.
- Provide a sticky utility bar with quick anchors (Overview, Schedule, Policies) that collapses into a horizontal scroll list on mobile.
- Print: auto- expand all `<details>` and ensure the table wraps neatly; hide utility bar.

- Accessibility: headings must be hierarchical (one <h1>, subsequent <h2>/<h3>), and all links have clear purpose.

45. **Startup Careers Page**

- Intro hero with <h1> “Careers at [Company]” and short EVP (employee value proposition) paragraph.
- Job filters (visual only): Location <select>, Team <select>, Work type chips (Remote/Hybrid/On- site) as buttons with aria-pressed.
- Job list: 8+ positions as linkable cards (). Each shows title, location, team, and a small badge for work type.
- Expandable job details: for 2 sample jobs, include an immediate next section using <details class="job"> with <summary> “View details” and an inner outline containing Responsibilities and Requirements .
- “Apply now” button on each card is a link styled as a button with a clear focus ring.
- Accessibility: indicate the current filter as text (non- functional); ensure sufficient color contrast for tags and badges.
- Responsive: two- column grid on ≥992px; single column below.

46. **News Article + Related Content**

- Breadcrumb above <article>.
- <article> must include: headline <h1>, standfirst/deck paragraph, byline with author link and <time datetime>, at least 8 paragraphs, 1 pull quote (<blockquote>), and 2 figures with captions.
- Related content <aside> lists 6 links with small thumbnails; use semantic list.
- Share actions: a list of 3 “icon” links marked aria-label="Share on ..." and target="_blank" rel="noopener".
- Typography: body measure 65–75ch; clamp() scale for headings; ensure minimum 4.5:1 contrast.
- Print: show article only, expand links as footnotes (add a generated href display next to each share link using ::after content).

47. **Static FAQ Page**

- Page title <h1> “Frequently Asked Questions”.
- Add a non- functional search field for visual affordance at top.
- FAQ accordions: implement with <details>/<summary>; include at least 10 questions. The summary text becomes bold on hover/focus.
- Use an optional radio- hack section to demonstrate single- open behavior for the first 5 questions (provide both patterns side by side; purely CSS).
- Add anchored headings so each FAQ is linkable; show a small # anchor icon revealed on hover/focus next to each question.
- “Back to top” control uses a sticky button in lower right (CSS position fixed) with strong focus ring and aria-label.
- Print: expand all FAQs and hide the sticky control.

48. **Hotel Booking (Static)**

- Two- panel layout: left pane “Choose your room”, right pane “Booking details”.
- Left pane: list 3 room types as cards with image, title, short description, amenities list (icons + text), and nightly price. Add non- functional “Select” button on each.
- Right pane form: Check- in/out dates (type=date), Guests (type=number min=1 max=6), Promo code (optional), and required checkbox agreeing to policy.
- Price summary (static) shows subtotal, taxes, and total in a bordered box; numbers right- aligned using monospace.
- Accessibility: each icon has visually hidden label; images have descriptive alt; form controls labeled; strong focus indicators.
- Responsive: stack panels on <992px; ensure images remain 16:9.
- Print: hide images; show a compact confirmation summary.

49. Clinic Appointment (Static)

- Header with clinic logo and phone number as a clickable tel: link.
- Form sections (fieldset+legend): Patient Info, Department & Doctor, Appointment Details, Consent.
- Patient Info: Name (required), DOB (type=date), Email (type=email), Phone (type=tel with pattern for 10 digits), Insurance ID (optional).
- Department & Doctor: Department <select> (Cardiology, Ortho, Derm, etc.), Doctor <select> (at least 5), and a note field (textarea optional).
- Appointment Details: Preferred Date (type=date), Time (type=time), Visit Type (radio: New/Follow- up), and a checkbox for “Video Consultation”.
- Consent: required checkbox acknowledging privacy policy; show a static inline notice text with link.
- Layout: two columns on desktop using Grid; one column on mobile; spacing via tokens.
- Accessibility: per- field help text tied with aria-describedby; show sample .error messages next to two fields (hidden by default); success banner block prepared.

50. Portfolio Case Grid + Project Page

- This capstone has two pages: index.html (grid of cases) and project.html (a single case study). Both share styles.css.
- index.html:
 - Header with name/logo and nav.
 - Grid of at least 9 projects using repeat(auto-fit, minmax(240px, 1fr)); cards contain image, title, 1- line role, and tags.
 - Card focus/hover lifts the card and underlines the title link; ensure keyboard parity using :focus-within.
 - Footer with links (Email, LinkedIn, GitHub) with accessible names.
- project.html:
 - Breadcrumb back to Home and Projects with aria-current on current item.
 - Hero section: project title <h1>, role, timeframe (<time>), tools used ().

- Body sections: Overview, Process, Outcomes, Gallery. Include at least one <picture> and three figures with captions.
 - A CTA “View live site” link (placeholder) with rel="noopener".
 - Back- to- top anchor link and “Previous/Next project” links at bottom.
 - Global:
 - Design tokens for colors/spacing/typography in :root and a high- contrast variant via .theme-contrast on <body>.
 - Respect prefers-reduced-motion; ensure focus styles meet WCAG.
 - Print: single- column, images downsized to page width, links underlined.
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