**1. Setting Up Bootstrap 5**

**1.1: Basic HTML + 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>

**1.2: Setup via NPM or Download**

* npm install bootstrap
* Link to local bootstrap.min.css and bootstrap.bundle.min.js

**2. Bootstrap Structure and Files**

**2.1: Folder Breakdown**

* **CSS:** Core stylesheets
* **JS:** Plugins (modals, dropdowns)
* **Icons:** SVG icon set

**2.2: Include bootstrap.bundle.min.js for JS plugins**

<script src="path/to/bootstrap.bundle.min.js"></script>

**3. Responsive Grid Layout**

**3.1: Columns that change with screen size**

<div class="container">

<div class="row">

<div class="col-12 col-sm-6 col-lg-4">Column 1</div>

<div class="col-12 col-sm-6 col-lg-4">Column 2</div>

<div class="col-12 col-sm-6 col-lg-4">Column 3</div>

</div>

</div>

**3.2: Use .container, .row, .col-\***

**4. Column Layouts**

**4.1: Sidebar + Content**

<div class="row">

<div class="col-md-3">Sidebar</div>

<div class="col-md-9">Main Content</div>

</div>

4.2: Equal Four-Column Layout

<div class="row">

<div class="col-sm-3">Col</div>

<div class="col-sm-3">Col</div>

<div class="col-sm-3">Col</div>

<div class="col-sm-3">Col</div>

</div>

**5. Alignment and Reordering**

**5.1: Center content**

<div class="row justify-content-center align-items-center">

5.2: Reorder on screens

<div class="col-md-6 order-md-2">Main</div>

<div class="col-md-6 order-md-1">Sidebar</div>

**6. Responsive Flexbox**

**6.1: Flex Navbar**

<div class="d-flex flex-column flex-md-row">

6.2: Card Layout

<div class="d-flex justify-content-between align-items-center">

**7. Typography**

**7.1: Typography Utilities**

* display-1, lead, text-muted, fw-bold

**7.2: Text case**

* text-uppercase, text-lowercase, text-capitalize

**8. Forms**

**8.1: Registration Form**

Use .form-control, .form-check, .input-group

**8.2: Floating Labels**

<div class="form-floating">

<input type="email" class="form-control" id="email" placeholder="name@example.com">

<label for="email">Email address</label>

</div>

**9. Buttons**

**9.1: All Button Styles**

* btn-primary, btn-outline-danger, etc.

**9.2: Button Groups and Toggles**

<div class="btn-group" role="group">

<input type="checkbox" class="btn-check" id="btncheck1" autocomplete="off">

<label class="btn btn-outline-primary" for="btncheck1">Check</label>

</div>

**10. Navbars and Navigation**

**10.1: Responsive Navbar**

Includes logo, links, search input

**10.2: Tabbed Navigation**

Use .nav, .nav-tabs, .nav-pills

**11. Cards and Media**

**11.1: Profile Card**

Use .card, .card-body, .card-img-top

**11.2: Media Object**

Use .d-flex, .me-3 for image on left

**12. Spacing**

**12.1: Margin & Padding Utilities**

* m-3, mt-4, p-2, py-5

**12.2: Layout Improvement with Spacing**

**13. Colors and Backgrounds**

**13.1: Background Colors**

* bg-primary, bg-warning, etc.

**13.2: Gradients**

* bg-gradient, bg-dark, text-white

**14. Display and Visibility**

**14.1: Visibility Classes**

* d-none, d-md-block, d-lg-flex

**14.2: Responsive Sidebar**

Only show on md and up

**15. Borders and Shadows**

**15.1: Border Styles**

* border, border-primary, border-3, rounded-circle

**15.2: Card with Shadow**

* shadow, shadow-lg, rounded-pill

**16. Positioning**

**16.1: Fixed Footer**

html

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<footer class="position-fixed bottom-0 w-100 bg-dark text-white">...</footer>

**16.2: Overlay Badge**

html

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<div class="position-relative">

<img src="..." class="img-fluid">

<span class="position-absolute top-0 start-100 translate-middle badge bg-danger">New</span>

</div>

**17. Bootstrap Icons**

**17.1: Install + Use**

* CDN: <link href="https://cdn.jsdelivr.net/npm/bootstrap-icons/font/bootstrap-icons.css" rel="stylesheet">
* Example: <i class="bi bi-facebook"></i>

**17.2: Icon-only Buttons**

html

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<button class="btn btn-outline-secondary"><i class="bi bi-gear"></i></button>

**18. JavaScript Plugins**

**18.1: Modal**

Trigger with data-bs-toggle="modal" and #myModal

**18.2: Accordion**

Use .accordion and .accordion-item

**19. Sass Customization**

**19.1: Setup with Sass + NPM**

bash

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npm install bootstrap sass

**19.2: Customize Variables**

Edit \_variables.scss (e.g., $primary: #123456;) and recompile