

Perfect! Here's a structured set of examples and exercises for each of the HTML and CSS topics you listed. This is great for both beginners and for practicing hands-on.

Text Formatting Tags

Example:

```
<p><b>Bold</b> <i>Italic</i> <u>Underlined</u></p>
<p><mark>Highlighted</mark> <small>Small Text</small> <del>Deleted</del> <ins>Inserted</ins></p>
```

Exercise: - Create a paragraph that includes bold, italic, and ~~strikethrough~~ text. Add a line that includes highlighted words.

Different Types of Lists

Example:

```
<ul>
  <li>Unordered Item</li>
</ul>
<ol>
  <li>Ordered Item</li>
</ol>
<dl>
  <dt>HTML</dt>
  <dd>Markup Language</dd>
</dl>
```

Exercise: - Create an unordered list of your favorite fruits. - Make an ordered list of steps in a recipe. - Use a definition list for 3 programming terms.

HTML Attributes and Links

Example:

```
<a href="https://example.com" target="_blank" title="Visit Example">Click Here</a>
```

Exercise: - Create a link to Google that opens in a new tab and has a tooltip.

Images and Multimedia Tags

Example:

```

<video controls width="300">
  <source src="video.mp4" type="video/mp4" />
</video>
<audio controls>
  <source src="audio.mp3" type="audio/mp3" />
</audio>
```

Exercise: - Insert an image with an alternate text. - Embed a video and audio with controls.

Creating Tables

Example:

```
<table border="1">
  <tr><th>Name</th><th>Age</th></tr>
  <tr><td>Alice</td><td>24</td></tr>
</table>
```

Exercise: - Create a table with 3 columns and 3 rows including headers.

Usage of Rowspan & Colspan

Example:

```
<table border="1">
  <tr><td rowspan="2">Rowspan</td><td>Cell 1</td></tr>
  <tr><td>Cell 2</td></tr>
  <tr><td colspan="2">Colspan</td></tr>
</table>
```

Exercise: - Make a table where one cell spans two columns and another spans two rows.

HTML Forms

Example:

```
<form>
  <input type="text" name="name" />
```

```
<input type="submit" value="Submit" />
</form>
```

Exercise: - Create a form with a name and email field, and a submit button.

Input Types

Example:

```
<input type="text" />
<input type="password" />
<input type="email" />
<input type="date" />
<input type="range" />
```

Exercise: - Create a form with input types: text, email, password, date, and range.

Form & Input Attributes

Example:

```
<input type="text" required placeholder="Enter name" maxlength="20" />
```

Exercise: - Use required, placeholder, and maxlength on input fields.

CSS

Introduction to CSS & Types

Example:

```
<!-- Inline -->
<p style="color: red;">Red Text</p>

<!-- Internal -->
<style>
  p { color: blue; }
</style>

<!-- External -->
<link rel="stylesheet" href="styles.css" />
```

Exercise: - Apply the color red to a paragraph using all three CSS types.

Selectors (Class, ID, Tag)

Example:

```
<style>
  p { color: blue; }
  #main { font-weight: bold; }
  .highlight { background-color: yellow; }
</style>
```

Exercise: - Use a class to change background color, an ID for bold text, and tag for text color.

Basic Properties

Example:

```
p {
  color: white;
  background-color: black;
  border: 1px solid red;
  padding: 10px;
  margin: 20px;
  font-family: Arial;
}
```

Exercise: - Style a paragraph with a background color, border, padding, margin, and a different font.

CSS Box Model Explained

Example:

```
.box {
  width: 100px;
  padding: 10px;
  border: 5px solid black;
  margin: 20px;
}
```

Exercise: - Create a div and visualize each part of the box model.

CSS Flexbox and Grid Layout

Example (Flexbox):

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

Example (Grid):

```
.grid-container {
  display: grid;
  grid-template-columns: repeat(3, 1fr);
}
```

Exercise: - Create a layout using Flexbox with 3 items spaced evenly. - Create a 2x2 grid layout with 4 divs.

🔗 Positioning Elements

Example:

```
.static { position: static; }
.relative { position: relative; top: 10px; }
.absolute { position: absolute; top: 20px; left: 30px; }
.fixed { position: fixed; top: 0; }
```

Exercise: - Position a box using each of the 4 types and observe behavior on scroll.

👉 Pseudo-classes and Pseudo-elements

Example:

```
a:hover { color: red; }
p::first-letter { font-size: 2em; color: green; }
```

Exercise: - Change link color on hover. - Style the first letter of a paragraph.

🎬 Transitions and Animations

Example:

```
.box {
  transition: background 0.5s;
}
.box:hover {
  background: red;
}
```

```
}  
@keyframes slide {  
  from { left: 0; }  
  to { left: 100px; }  
}
```

Exercise: - Add a hover transition to a button. - Create a simple slide animation on a box.

Media Queries for Responsive Design

Example:

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

Exercise: - Change background color when screen width is below 600px.

Awesome!
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■ Bootstrap

◆ Introduction to Bootstrap Framework

Example:

> Bootstrap is a popular CSS framework that provides pre-styled components and utilities.

Exercise:

- Research what Bootstrap offers and write a short note on 3 benefits.
-

◆ Adding Bootstrap to Project (CDN and Local Setup)

Example (CDN):

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

Example (Local):

> Download Bootstrap and link the bootstrap.min.css file locally.

Exercise:

- Create two HTML files, one using CDN and one using local Bootstrap setup.
-

◆ Basic Bootstrap Components

Buttons:

```
<button class="btn btn-primary">Primary</button>
```

Forms:

```
<input type="text" class="form-control" placeholder="Enter name">
```

Alerts:

```
<div class="alert alert-success">Success!</div>
```

Modals:

```
<button data-bs-toggle="modal" data-bs-target="#myModal">Open Modal</button>
<div class="modal fade" id="myModal">
  <div class="modal-dialog"><div class="modal-content">Hello!</div></div>
</div>
```

Cards:

```
<div class="card" style="width: 18rem;">
  <div class="card-body">Card content</div>
</div>
```


Exercise: - Create a form inside a Bootstrap card. - Trigger an alert and modal using buttons.

◆ Bootstrap Utility Classes

Example:

```
<div class="text-center mt-3 p-4 bg-light">Centered Text</div>
```

Exercise: - Use utility classes to center a div, add margin, and padding.

◆ Bootstrap Grid System and Breakpoints

Example:

```
<div class="row">
  <div class="col-sm-6 col-lg-4">Column</div>
  <div class="col-sm-6 col-lg-8">Column</div>
</div>
```

Exercise: - Build a 2-column layout that becomes a single column on smaller screens.

◆ Bootstrap Form Controls and Validation

Example:

```
<form>
  <input class="form-control is-valid" required>
  <div class="valid-feedback">Looks good!</div>
</form>
```

Exercise: - Add validation to a form using Bootstrap's is-valid and is-invalid.

◆ Advanced Bootstrap Components

Carousel:

```
<div id="carouselExample" class="carousel slide" data-bs-ride="carousel">
  <div class="carousel-inner">
    <div class="carousel-item active"></div>
    <div class="carousel-item"></div>
  </div>
</div>
```

```
</div>
</div>
```

Accordion:

```
<div class="accordion" id="accordionExample">
  <div class="accordion-item">
    <h2 class="accordion-header"><button class="accordion-button" data-bs-toggle="collapse">
  </div>
</div>
```

Pagination:

```
<nav><ul class="pagination"><li class="page-item"><a class="page-link" href="#">1</a></li></ul>
```

Tooltips and Popovers:

```
<button data-bs-toggle="tooltip" title="Tooltip">Hover me</button>
<script>new bootstrap.Tooltip(document.querySelector('[data-bs-toggle="tooltip"]'));</script>
```

Exercise: - Create a page with an accordion and a carousel. - Add pagination and a tooltip on a button.

◆ Customizing Bootstrap with CSS

Example:

```
<style>
  .btn-custom { background-color: purple; color: white; }
</style>
<button class="btn btn-custom">Custom Button</button>
```

Exercise: - Override a Bootstrap button color using a custom class.

♥ JavaScript

◆ Introduction to JavaScript Syntax and Structure

Example:

```
console.log("Hello, JavaScript!");
```

Exercise: - Write a script that logs your name and favorite color.

◆ Variables: let, const, var

Example:

```
let x = 10;  
const pi = 3.14;  
var name = "John";
```

Exercise: - Declare variables using let, const, and var for age, name, and country.

◆ Control Structures

Example:

```
if (x > 5) console.log("Greater");  
else console.log("Smaller");  
  
switch (day) {  
  case "Monday": console.log("Start"); break;  
}
```

Exercise: - Write a script that checks age and displays voting eligibility.

◆ Loops

Example:

```
for (let i = 0; i < 5; i++) console.log(i);  
for (let key in obj) {}  
for (let val of arr) {}
```

Exercise: - Use a for loop to print numbers from 1 to 10. - Use for...of to print each item in an array.

◆ Functions

Example:

```
function greet() { return "Hello"; }  
const square = function(x) { return x * x; }  
const arrow = x => x * 2;
```

Exercise: - Create a function that adds two numbers using all 3 types.

◆ Arrays and Methods

Example:

```
let arr = [1, 2, 3];
arr.push(4);
arr.map(x => x * 2);
```

Exercise: - Create an array and use push(), pop(), and map() on it.

◆ Objects

Example:

```
let person = { name: "Sam", age: 25 };
console.log(person.name);
```

Exercise: - Create an object with properties: name, age, city. Log each property.

◆ String Methods

Example:

```
let str = "Hello World";
str.slice(0, 5);
str.split(" ");
str.replace("World", "JavaScript");
```

Exercise: - Use slice(), split(), replace(), and template literals to manipulate a string.

◆ DOM Manipulation Basics

Example:

```
document.getElementById("demo").innerHTML = "Updated!";
```

Exercise: - Change the text and background of a div using querySelector() and .style.

◆ Event Handling

Example:

```
document.getElementById("btn").onclick = () => alert("Clicked!");
```

Exercise: - Create buttons that respond to onmouseover and onkeyup.

◆ Event Propagation

Example:

```
div.addEventListener("click", e => {  
  e.stopPropagation();  
});
```

Exercise: - Create nested divs and demonstrate bubbling and stopping propagation.

◆ Form Validation

Example:

```
<input type="text" required pattern="[A-Za-z]+" maxlength="10">
```

Exercise: - Validate a form using required, pattern, and JavaScript custom validation.

◆ Local & Session Storage

Example:

```
localStorage.setItem("username", "john");  
let name = localStorage.getItem("username");
```

Exercise: - Store and retrieve user input using localStorage.
