FSD LAB 1

Aim: Build responsive and interactive UIs using Tailwind CSS

Theory:

Tailwind CSS is a **utility-first CSS framework** that provides low-level classes to build custom designs directly in HTML.
 Instead of writing separate CSS files for styles, developers use predefined utility classes (e.g., bg-gray-100, text-center, p-4) to style elements.

Key Features:

1. **Utility-first approach** – Speeds up development by avoiding repetitive custom CSS.

2. **Responsive design** – Built-in breakpoints (sm, md, lg, xl, 2xl) allow quick adjustments for different screen sizes.

3. **Customization** – Easily configurable using tailwind.config.js for themes, colors, spacing, etc.

4. **Hover, focus, and state variants** – Classes like hover:bg-blue-500 or focus:outline-none add interactivity without writing extra CSS.

5. **Performance optimization** – Unused CSS can be purged in production builds, resulting in smaller file sizes.

Tailwind also supports **modern UI features** like gradients, animations, dark mode, and flex/grid layouts, enabling rapid prototyping and production-ready designs.

Code:

Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8" />
 <meta name="viewport" content="width=device-width, initial-scale=1.0" />
 <title>E-Commerce UI</title>
 <link href="./output.css" rel="stylesheet" />
</head>
<body class="bg-gray-50">

 <!-- Navbar -->
 <nav class="bg-black shadow-md sticky top-0 z-50">
   <div class="container mx-auto px-4 py-3 flex justify-between items-center">
     <a href="#" class="text-2xl font-bold text-white">ShopEase</a>
     <input type="text" placeholder="Search products..."
      class="hidden md:block w-1/3 px-3 py-2 border rounded-md focus:outline-none focus:ring-2
focus:ring-gray-400" />
     <div class="flex items-center gap-4">
      <a href="#" class="text-gray-300 hover:text-white">Login</a>
      <a href="#" class="relative">
       <svg class="w-6 h-6 text-gray-300 hover:text-white" fill="none" stroke="currentColor" stroke-width="2"
        viewBox="0 0 24 24">
        <path stroke-linecap="round" stroke-linejoin="round"
         d="M3 3h2l.4 2M7 13h10l4-8H5.4M7 13l-1.3 5.2a1 1 0 001 1.3h12a1 1 0 001-1.3L17 13M7 13l-3-6m16 6a2
2 0 11-4 0" />
       </svg>
       <span
        class="absolute -top-2 -right-2 bg-red-500 text-white text-xs px-1 rounded-full">3</span>
```

1

```html
      </a>
    </div>
   </div>
 </nav>

 <!-- Hero -->
 <section class="bg-gray-900 text-white text-center py-16">
   <h1 class="text-4xl font-bold">Welcome to ShopEase</h1>
   <p class="mt-4 text-lg">Your one-stop shop for amazing deals!</p>
   <button class="mt-6 px-6 py-2 bg-white text-gray-900 font-semibold rounded-md hover:bg-gray-200 transition">
     Shop Now
   </button>
 </section>

 <!-- Product Grid -->
 <section class="container mx-auto px-4 py-12">
   <h2 class="text-2xl font-bold mb-6 text-gray-800">Featured Products</h2>
   <div class="grid gap-6 sm:grid-cols-2 md:grid-cols-3 lg:grid-cols-4">

     <!-- Product Card -->
     <div class="bg-white shadow-md rounded-lg overflow-hidden hover:shadow-xl hover:bg-gradient-to-b
hover:from-gray-100 hover:to-gray-300 transition transform hover:scale-105">
       <img src="https://via.placeholder.com/300x200" alt="Product" class="w-full h-48 object-cover">
       <div class="p-4">
         <h3 class="text-lg font-semibold text-gray-800">Product Name</h3>
         <p class="text-gray-600">$29.99</p>
         <button class="mt-3 w-full bg-black text-white py-2 rounded-md hover:bg-gray-800 transition">Add to
Cart</button>
       </div>
     </div>

     <!-- Duplicate Card -->
     <div class="bg-white shadow-md rounded-lg overflow-hidden hover:shadow-xl hover:bg-gradient-to-b
hover:from-gray-100 hover:to-gray-300 transition transform hover:scale-105">
       <img src="https://via.placeholder.com/300x200" alt="Product" class="w-full h-48 object-cover">
       <div class="p-4">
         <h3 class="text-lg font-semibold text-gray-800">Another Product</h3>
         <p class="text-gray-600">$49.99</p>
         <button class="mt-3 w-full bg-black text-white py-2 rounded-md hover:bg-gray-800 transition">Add to
Cart</button>
       </div>
     </div>

     <!-- More products can go here -->

   </div>
 </section>

 <!-- Footer -->
 <footer class="bg-black shadow-inner mt-12">
   <div class="container mx-auto px-4 py-6 text-center text-gray-400">
     &copy; 2025 ShopEase. All rights reserved.
   </div>
 </footer>

</body>
</html>
```

Package.json

```json
{
  "name": "fsd",
  "version": "1.0.0",
  "main": "tailwind.config.js",
  "scripts": {
    "build": "tailwindcss -i ./input.css -o ./output.css --watch"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "description": "",
  "devDependencies": {
    "tailwindcss": "^3.4.17"
  }
}
```

Tailwind.config.js

```js
/** @type {import('tailwindcss').Config} */
module.exports = {
  content: ["./*.html"],
  theme: {
    extend: {},
  },
  plugins: [],
}
```
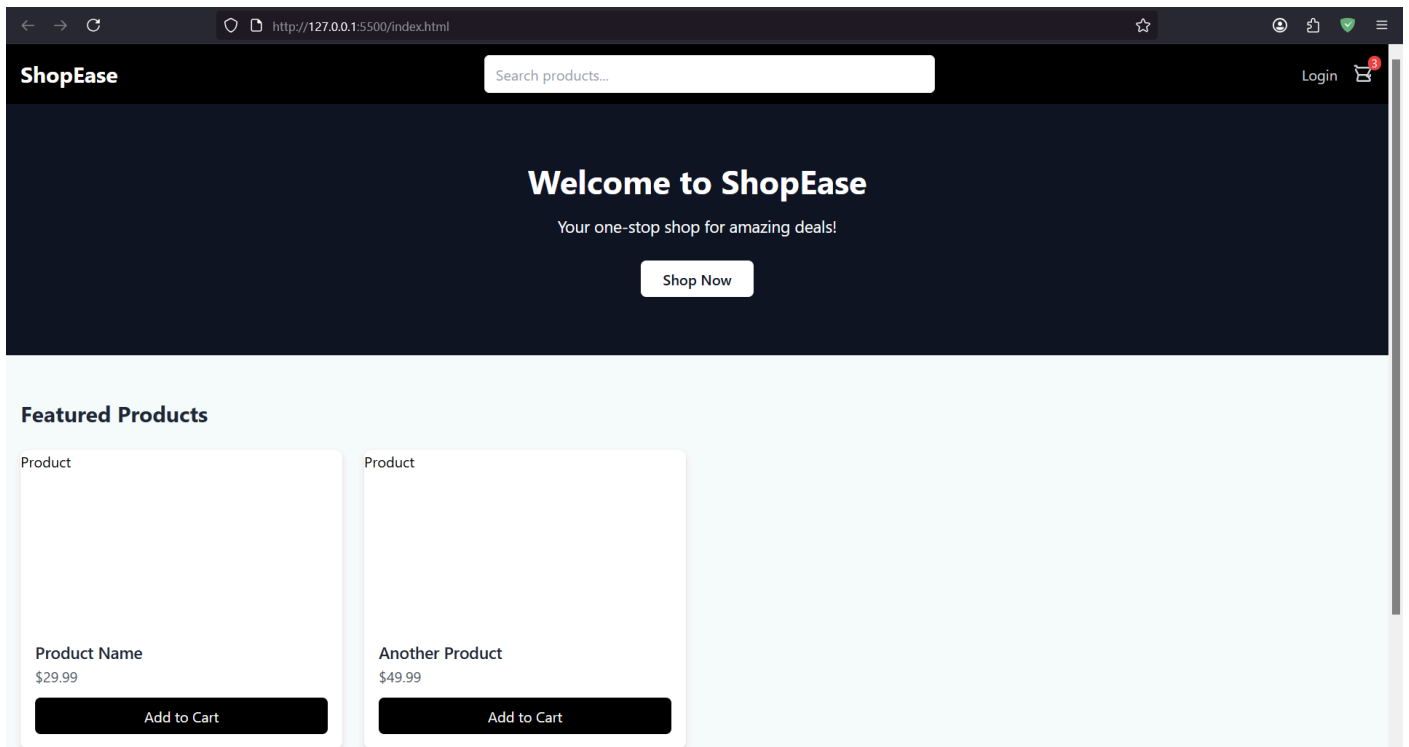
Input.css

```css
@tailwind base;
@tailwind components;
@tailwind utilities;
```

Output:

Figure 1.1: Home Page Example