

Experiment No. 1

Aim :-

Build responsive and interactive UIs using Tailwind CSS

Prerequisites :-

Before building this project, the following knowledge and tools are required:

- **HTML Basics** - Structure of web pages, semantic tags (div, h1, p, etc.).
- **CSS Fundamentals** - Styling elements, layouts, responsiveness.
- **Tailwind CSS** - Utility-first CSS framework for rapid UI development (classes like flex, grid, bg-gradient-to-r, rounded-lg, etc.).
- **JavaScript Basics** - DOM manipulation, event listeners, functions.
- **Web Browser** - Any modern browser (Chrome, Edge, Firefox) to test and run the project.
- **Code Editor** - VS Code (or any preferred editor) to write and run code.

Theory :-

This project demonstrates how to build a **responsive and interactive recipe dashboard** using **Tailwind CSS + JavaScript**.

Key Concepts Applied:

1. **Responsive UI with Tailwind CSS**
 - The layout is made responsive using **grid system** (grid grid-cols-1 sm:grid-cols-2 lg:grid-cols-3).
 - **Flexbox** (flex, justify-between, items-center) ensures alignment.
 - **Responsive design utilities** (sm:, lg: prefixes) adapt UI to different screen sizes.
2. **Styling with Tailwind CSS Utilities**
 - Background gradients: bg-gradient-to-r from-orange-500 to-red-600.
 - Shadows and transitions: shadow-xl, hover:scale-105, transition-all.
 - Rounded corners and blur: rounded-2xl, backdrop-blur-sm.
3. **Navigation and Page Switching**
 - Two sections: **Home Page** and **Search Page**.
 - Switching handled by JavaScript functions showHome() and showSearch() using classList.add('hidden') and classList.remove('hidden').
4. **Search Functionality**
 - A **JavaScript recipe array** acts as the database.
 - The search filters recipes by **name, cuisine, difficulty, ingredients, and description**.
 - Matching results are dynamically displayed using innerHTML.
5. **Interactivity**
 - Hover effects and animations give users smooth UI experience.

- Input box listens for **Enter** key using keypress event to trigger search.
- Results show "No recipes found" when filters don't match.

Program Code :-

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4    <meta charset="UTF-8" />
5    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
6    <title>Stylish Recipe Dashboard</title>
7    <script src="https://cdn.tailwindcss.com"></script>
8  </head>
9  <body class="bg-gradient-to-br from-orange-100 via-amber-200 to-red-300 min-h-screen flex flex-col">
10
11    <nav class="bg-gradient-to-r from-orange-500 to-red-600 text-white shadow-lg">
12      <div class="max-w-7xl mx-auto px-6 py-4 flex justify-between items-center">
13
14        <div class="flex items-center gap-3">
15          
16          <span class="text-xl font-bold tracking-wide">Recipe Dashboard</span>
17        </div>
18        <div class="flex gap-6">
19          <a href="#" class="relative group onclick='showHome()'">
20            Home
21            <span id="home-underline" class="absolute left-0 bottom-0 w-full h-[2px] bg-white"></span>
22          </a>
23          <a href="#" class="relative group onclick='showSearch()'">
24            Search Recipes
25            <span id="search-underline" class="absolute left-0 bottom-0 w-0 h-[2px] bg-white transition-all group-hover:w-full"></span>
26          </a>
27        </div>
28      </div>
29    </nav>
30
31    <main class="flex flex-col items-center py-12 flex-grow">
32
33      <div id="home-page">
34        <h1 class="text-4xl font-extrabold text-orange-900 drop-shadow-lg mb-10 text-center">
35          🍳 Real-Time Recipe Dashboard
36        </h1>

```

```

39    <div id="recipe-container" class="grid grid-cols-1 sm:grid-cols-2 lg:grid-cols-3 gap-10 px-6 w-full max-w-6xl">
40
41      <div class="bg-white/90 backdrop-blur-sm rounded-2xl shadow-xl p-6 transform hover:scale-105 transition-all duration-300">
42        <div class="flex items-center justify-between mb-4">
43          <h3 class="text-xl font-bold text-gray-800">Spaghetti Carbonara</h3>
44          <span class="text-3xl">🍝</span>
45        </div>
46        <div class="space-y-3">
47          <div class="flex justify-between items-center">
48            <span class="text-gray-600">Prep Time:</span>
49            <span class="font-semibold text-orange-600">15 min</span>
50          </div>
51          <div class="flex justify-between items-center">
52            <span class="text-gray-600">Cook Time:</span>
53            <span class="font-semibold text-orange-600">20 min</span>
54          </div>
55          <div class="flex justify-between items-center">
56            <span class="text-gray-600">Difficulty:</span>
57            <span class="font-semibold text-green-600">Medium</span>
58          </div>
59          <div class="flex justify-between items-center">
60            <span class="text-gray-600">Servings:</span>
61            <span class="font-semibold text-blue-600">4 people</span>
62          </div>
63        </div>
64        <div class="mt-4 p-3 bg-orange-50 rounded-lg">
65          <p class="text-sm text-gray-700">Classic Italian pasta with eggs, cheese, and pancetta</p>
66        </div>
67      </div>
68
69      <div class="bg-white/90 backdrop-blur-sm rounded-2xl shadow-xl p-6 transform hover:scale-105 transition-all duration-300">
70        <div class="flex items-center justify-between mb-4">
71          <h3 class="text-xl font-bold text-gray-800">Chicken Tikka Masala</h3>
72          <span class="text-3xl">🍛</span>
73        </div>
74        <div class="space-y-3">
75          <div class="flex justify-between items-center">
76            <span class="text-gray-600">Prep Time:</span>

```

```

77         <span class="font-semibold text-orange-600">30 min</span>
78     </div>
79     <div class="flex justify-between items-center">
80         <span class="text-gray-600">Cook Time:</span>
81         <span class="font-semibold text-orange-600">45 min</span>
82     </div>
83     <div class="flex justify-between items-center">
84         <span class="text-gray-600">Difficulty:</span>
85         <span class="font-semibold text-orange-600">Hard</span>
86     </div>
87     <div class="flex justify-between items-center">
88         <span class="text-gray-600">Servings:</span>
89         <span class="font-semibold text-blue-600">6 people</span>
90     </div>
91 </div>
92 <div class="mt-4 p-3 bg-orange-50 rounded-lg">
93     <p class="text-sm text-gray-700">Creamy tomato curry with tender marinated chicken</p>
94 </div>
95 </div>
96
97 <div class="bg-white/90 backdrop-blur-sm rounded-2xl shadow-xl p-6 transform hover:scale-105 transition-all duration-300">
98     <div class="flex items-center justify-between mb-4">
99         <h3 class="text-xl font-bold text-gray-800">Chocolate Chip Cookies</h3>
100         <span class="text-3xl">🍪</span>
101     </div>
102     <div class="space-y-3">
103         <div class="flex justify-between items-center">
104             <span class="text-gray-600">Prep Time:</span>
105             <span class="font-semibold text-orange-600">15 min</span>
106         </div>
107         <div class="flex justify-between items-center">
108             <span class="text-gray-600">Bake Time:</span>
109             <span class="font-semibold text-orange-600">12 min</span>
110         </div>
111         <div class="flex justify-between items-center">
112             <span class="text-gray-600">Difficulty:</span>
113             <span class="font-semibold text-green-600">Easy</span>
114         </div>

```

```

114     </div>
115     <div class="flex justify-between items-center">
116         <span class="text-gray-600">Yield:</span>
117         <span class="font-semibold text-blue-600">24 cookies</span>
118     </div>
119 </div>
120 <div class="mt-4 p-3 bg-orange-50 rounded-lg">
121     <p class="text-sm text-gray-700">Soft and chewy cookies with melted chocolate chips</p>
122 </div>
123 </div>
124
125 <div class="bg-white/90 backdrop-blur-sm rounded-2xl shadow-xl p-6 transform hover:scale-105 transition-all duration-300">
126     <div class="flex items-center justify-between mb-4">
127         <h3 class="text-xl font-bold text-gray-800">Caesar Salad</h3>
128         <span class="text-3xl">🥗</span>
129     </div>
130     <div class="space-y-3">
131         <div class="flex justify-between items-center">
132             <span class="text-gray-600">Prep Time:</span>
133             <span class="font-semibold text-orange-600">10 min</span>
134         </div>
135         <div class="flex justify-between items-center">
136             <span class="text-gray-600">Cook Time:</span>
137             <span class="font-semibold text-orange-600">0 min</span>
138         </div>
139         <div class="flex justify-between items-center">
140             <span class="text-gray-600">Difficulty:</span>
141             <span class="font-semibold text-green-600">Easy</span>
142         </div>
143         <div class="flex justify-between items-center">
144             <span class="text-gray-600">Servings:</span>
145             <span class="font-semibold text-blue-600">4 people</span>
146         </div>
147     </div>
148 <div class="mt-4 p-3 bg-orange-50 rounded-lg">
149     <p class="text-sm text-gray-700">Fresh romaine lettuce with creamy Caesar dressing</p>
150 </div>
151 </div>

```

```

153 <div class="bg-white/90 backdrop-blur-sm rounded-2xl shadow-xl p-6 transform hover:scale-105 transition-all duration-300">
154   <div class="flex items-center justify-between mb-4">
155     <h3 class="text-xl font-bold text-gray-800">Tacos</h3>
156     <span class="text-3xl">🌮</span>
157   </div>
158   <div class="space-y-3">
159     <div class="flex justify-between items-center">
160       <span class="text-gray-600">Prep Time:</span>
161       <span class="font-semibold text-orange-600">20 min</span>
162     </div>
163     <div class="flex justify-between items-center">
164       <span class="text-gray-600">Cook Time:</span>
165       <span class="font-semibold text-orange-600">15 min</span>
166     </div>
167     <div class="flex justify-between items-center">
168       <span class="text-gray-600">Difficulty:</span>
169       <span class="font-semibold text-green-600">Easy</span>
170     </div>
171     <div class="flex justify-between items-center">
172       <span class="text-gray-600">Servings:</span>
173       <span class="font-semibold text-blue-600">3 people</span>
174     </div>
175   </div>
176   <div class="mt-4 p-3 bg-orange-50 rounded-lg">
177     <p class="text-sm text-gray-700">Seasoned ground beef with fresh toppings in corn tortillas</p>
178   </div>
179 </div>
180
181 <div class="bg-white/90 backdrop-blur-sm rounded-2xl shadow-xl p-6 transform hover:scale-105 transition-all duration-300">
182   <div class="flex items-center justify-between mb-4">
183     <h3 class="text-xl font-bold text-gray-800">Margherita Pizza</h3>
184     <span class="text-3xl">🍕</span>
185   </div>
186   <div class="space-y-3">
187     <div class="flex justify-between items-center">
188       <span class="text-gray-600">Prep Time:</span>
189       <span class="font-semibold text-orange-600">90 min</span>
190     </div>

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191     <div class="flex justify-between items-center">
192       <span class="text-gray-600">Bake Time:</span>
193       <span class="font-semibold text-orange-600">15 min</span>
194     </div>
195     <div class="flex justify-between items-center">
196       <span class="text-gray-600">Difficulty:</span>
197       <span class="font-semibold text-orange-600">Medium</span>
198     </div>
199     <div class="flex justify-between items-center">
200       <span class="text-gray-600">Servings:</span>
201       <span class="font-semibold text-blue-600">4 people</span>
202     </div>
203   </div>
204   <div class="mt-4 p-3 bg-orange-50 rounded-lg">
205     <p class="text-sm text-gray-700">Classic pizza with fresh mozzarella, tomato, and basil</p>
206   </div>
207 </div>
208 </div>
209 </div>
210
211 <div id="search-page" class="hidden">
212   <div class="flex flex-col items-center mt-10 px-4">
213     <h2 class="text-3xl font-bold text-orange-800 mb-6">🔍 Search Recipes</h2>
214     <div class="bg-white/90 backdrop-blur-sm rounded-2xl shadow-xl p-8 w-full max-w-md">
215       <input id="recipe-input" type="text" placeholder="Enter recipe or ingredient..."
216         class="px-4 py-3 border-2 border-orange-200 rounded-lg shadow-md focus:outline-none focus:ring-2 focus:ring-orange-400 w-full text-center mb-4">
217     </div>
218     <div class="flex gap-2 mb-4">
219       <select id="cuisine-filter" class="px-3 py-2 border-2 border-orange-200 rounded-lg focus:ring-2 focus:ring-orange-400 flex-1">
220         <option value="">Any Cuisines</option>
221         <option value="italian">Italian</option>
222         <option value="mexican">Mexican</option>
223         <option value="indian">Indian</option>
224         <option value="chinese">Chinese</option>
225         <option value="american">American</option>
226       </select>
227       <select id="difficulty-filter" class="px-3 py-2 border-2 border-orange-200 rounded-lg focus:ring-2 focus:ring-orange-400 flex-1">
228         <option value="">Any Difficulty</option>

```



```

229         <option value="easy">Easy</option>
230         <option value="medium">Medium</option>
231         <option value="hard">Hard</option>
232     </select>
233 </div>
234
235     <button onclick="searchRecipe()"
236           class="w-full px-6 py-3 bg-gradient-to-r from-orange-500 to-red-600 text-white rounded-lg hover:from-orange-600 hover:to-red-700 shadow-lg transform
237           hover:scale-105 transition-all duration-200 font-semibold">
238         🔍 Search Recipes
239     </button>
240 </div>
241
242     <div id="search-results" class="mt-8 w-full max-w-4xl px-4"></div>
243 </div>
244 </main>
245
246 <script>
247
248     const recipes = [
249     {
250         name: "Spaghetti Carbonara",
251         cuisine: "italian",
252         difficulty: "medium",
253         prepTime: 15,
254         cookTime: 20,
255         servings: 4,
256         emoji: "🍝",
257         description: "Classic Italian pasta with eggs, cheese, and pancetta",
258         ingredients: ["spaghetti", "eggs", "pancetta", "parmesan", "black pepper"]
259     },
260     {
261         name: "Chicken Tikka Masala",
262         cuisine: "indian",
263         difficulty: "hard",
264         prepTime: 30,
265         cookTime: 45,

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266         servings: 6,
267         emoji: "🍛",
268         description: "Creamy tomato curry with tender marinated chicken",
269         ingredients: ["chicken", "yogurt", "tomato sauce", "cream", "spices"]
270     },
271     {
272         name: "Beef Tacos",
273         cuisine: "mexican",
274         difficulty: "easy",
275         prepTime: 20,
276         cookTime: 15,
277         servings: 3,
278         emoji: "🌮",
279         description: "Seasoned ground beef with fresh toppings",
280         ingredients: ["ground beef", "tortillas", "lettuce", "cheese", "tomatoes"]
281     },
282     {
283         name: "Pad Thai",
284         cuisine: "thai",
285         difficulty: "medium",
286         prepTime: 25,
287         cookTime: 15,
288         servings: 4,
289         emoji: "🍜",
290         description: "Sweet and tangy Thai stir-fried noodles",
291         ingredients: ["rice noodles", "shrimp", "tofu", "bean sprouts", "tamarind"]
292     },
293     {
294         name: "Greek Salad",
295         cuisine: "greek",
296         difficulty: "easy",
297         prepTime: 15,
298         cookTime: 0,
299         servings: 4,
300         emoji: "🥗",
301         description: "Fresh Mediterranean salad with feta cheese",
302         ingredients: ["tomatoes", "cucumber", "feta", "olives", "olive oil"]
303     }

```

```

304     };
305
306     function showHome() {
307         document.getElementById('home-page').classList.remove('hidden');
308         document.getElementById('search-page').classList.add('hidden');
309         document.getElementById('home-underline').classList.remove('w-0');
310         document.getElementById('home-underline').classList.add('w-full');
311         document.getElementById('search-underline').classList.remove('w-full');
312         document.getElementById('search-underline').classList.add('w-0');
313     }
314
315     function showSearch() {
316         document.getElementById('home-page').classList.add('hidden');
317         document.getElementById('search-page').classList.remove('hidden');
318         document.getElementById('home-underline').classList.remove('w-full');
319         document.getElementById('home-underline').classList.add('w-0');
320         document.getElementById('search-underline').classList.remove('w-0');
321         document.getElementById('search-underline').classList.add('w-full');
322     }
323
324     function searchRecipe() {
325         const query = document.getElementById('recipe-input').value.toLowerCase();
326         const cuisine = document.getElementById('cuisine-filter').value;
327         const difficulty = document.getElementById('difficulty-filter').value;
328
329         let filteredRecipes = recipes.filter(recipe => {
330             const matchesQuery = !query ||
331                 recipe.name.toLowerCase().includes(query) ||
332                 recipe.ingredients.some(ingredient => ingredient.includes(query)) ||
333                 recipe.description.toLowerCase().includes(query);
334
335             const matchesCuisine = !cuisine || recipe.cuisine === cuisine;
336             const matchesDifficulty = !difficulty || recipe.difficulty === difficulty;
337
338             return matchesQuery && matchesCuisine && matchesDifficulty;
339         });
340
341         displaySearchResults(filteredRecipes);

```

```

342     }
343
344     function displaySearchResults(results) {
345         const resultsContainer = document.getElementById('search-results');
346
347         if (results.length === 0) {
348             resultsContainer.innerHTML = `
349             <div class="text-center p-8">
350                 <div class="text-6xl mb-4">❗</div>
351                 <h3 class="text-xl font-bold text-gray-600 mb-2"&>No recipes found</h3>
352                 <p class="text-gray-500">Try adjusting your search criteria</p>
353             </div>
354             `;
355             return;
356         }
357
358         const html = `
359         <h3 class="text-2xl font-bold text-orange-800 mb-6 text-center"&>Found ${results.length} recipe${results.length !== 1 ? 's' : ''}</h3>
360         <div class="grid grid-cols-1 sm:grid-cols-2 lg:grid-cols-3 gap-6">
361             ${results.map(recipe => `
362             <div class="bg-white/90 backdrop-blur-sm rounded-2xl shadow-xl p-6 transform hover:scale-105 transition-all duration-300">
363                 <div class="flex items-center justify-between mb-4">
364                     <h4 class="text-lg font-bold text-gray-800">${recipe.name}</h4>
365                     <span class="text-3xl">${recipe.emoji}</span>
366                 </div>
367                 <div class="space-y-2 text-sm">
368                     <div class="flex justify-between">
369                         <span class="text-gray-600">Prep:</span>
370                         <span class="font-semibold text-orange-600">${recipe.prepTime} min</span>
371                     </div>
372                     <div class="flex justify-between">
373                         <span class="text-gray-600">Cook:</span>
374                         <span class="font-semibold text-orange-600">${recipe.cookTime} min</span>
375                     </div>
376                     <div class="flex justify-between">
377                         <span class="text-gray-600">Difficulty:</span>
378                         <span class="font-semibold ${recipe.difficulty === 'easy' ? 'text-green-600' : recipe.difficulty === 'medium' ? 'text-orange-600' : 'text-red-600'}">${recipe.difficulty.charAt(0).toUpperCase() + recipe.difficulty.slice(1)}</span>

```

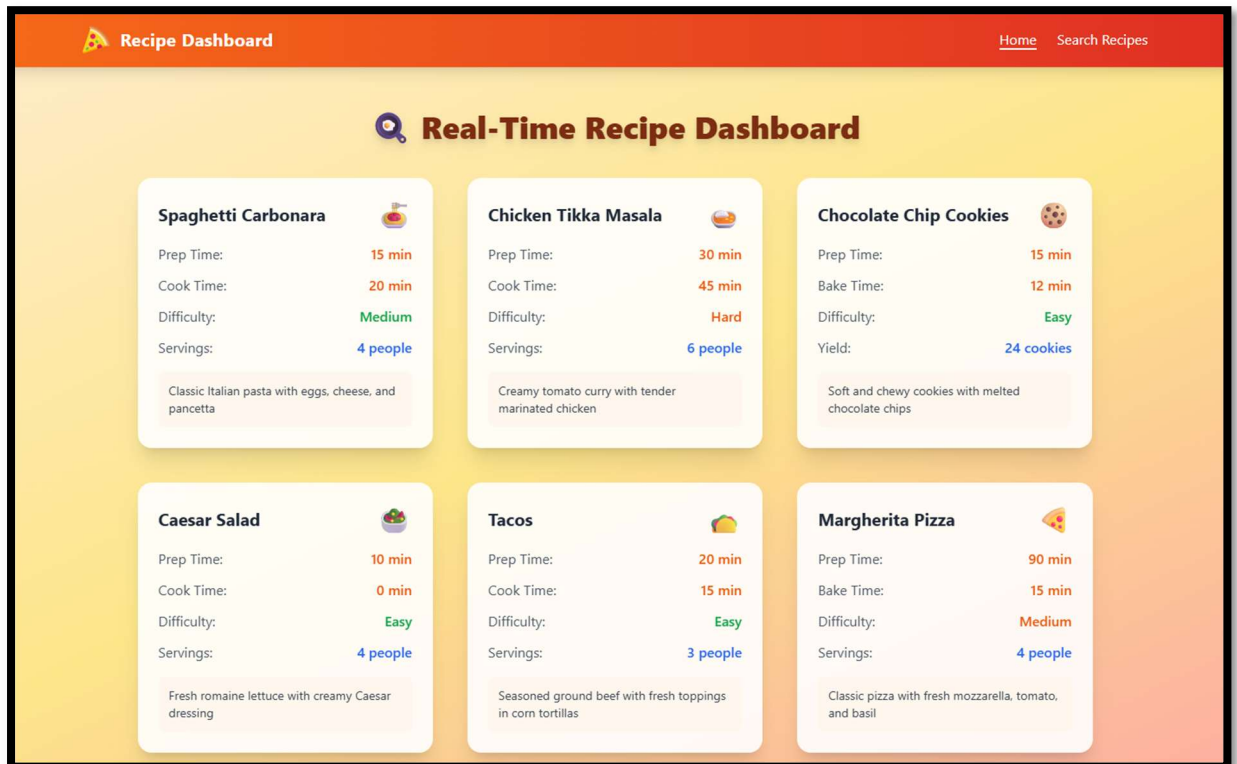
```

378         <span class="font-semibold ${recipe.difficulty === 'easy' ? 'text-green-600' : recipe.difficulty === 'medium' ? 'text-orange-600' :
379         'text-red-600'}">${recipe.difficulty.charAt(0).toUpperCase() + recipe.difficulty.slice(1)}</span>
380     </div>
381     <div class="flex justify-between">
382         <span class="text-gray-600">Servings:</span>
383         <span class="font-semibold text-blue-600">${recipe.servings}</span>
384     </div>
385     <div class="mt-4 p-3 bg-orange-50 rounded-lg">
386         <p class="text-sm text-gray-700">${recipe.description}</p>
387     </div>
388 </div>
389     `).join('')
390 </div>
391 `;
392
393     resultsContainer.innerHTML = html;
394 }
395 document.getElementById('recipe-input').addEventListener('keypress', function(e) {
396     if (e.key === 'Enter') {
397         searchRecipe();
398     }
399 });
400 </script>
401 </body>
402 </html>

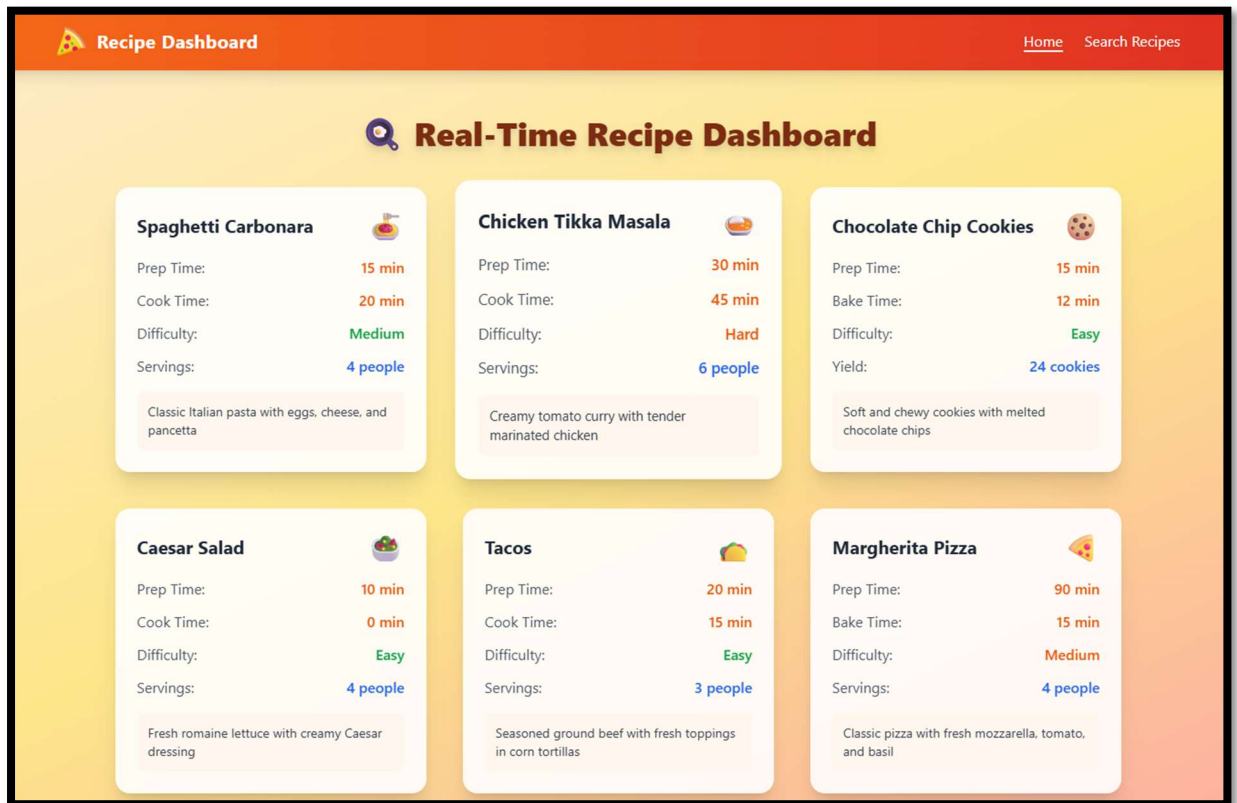
```

Output :-

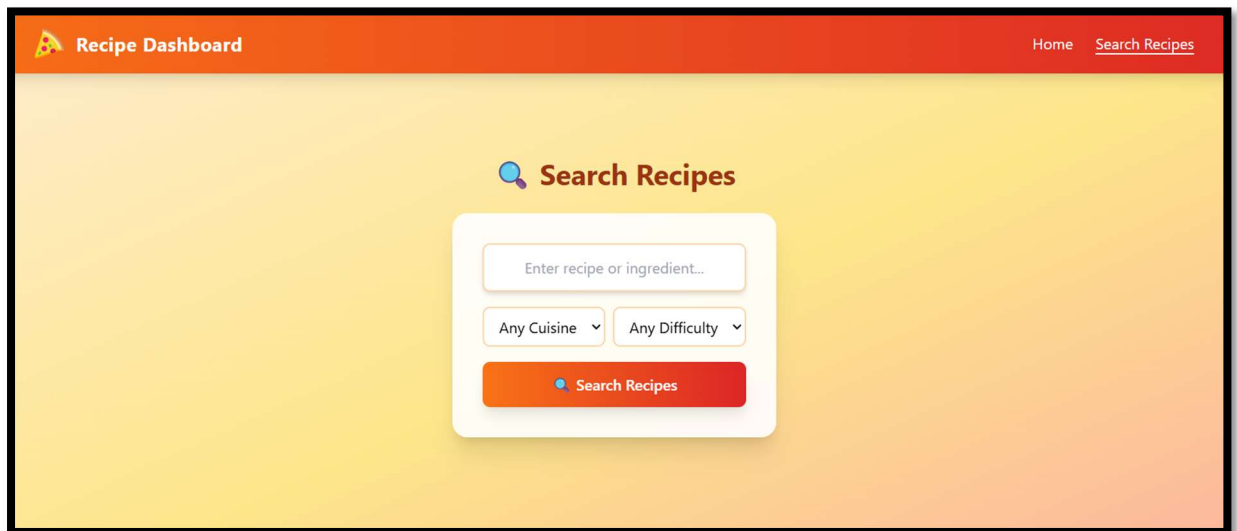
- HomePage :-



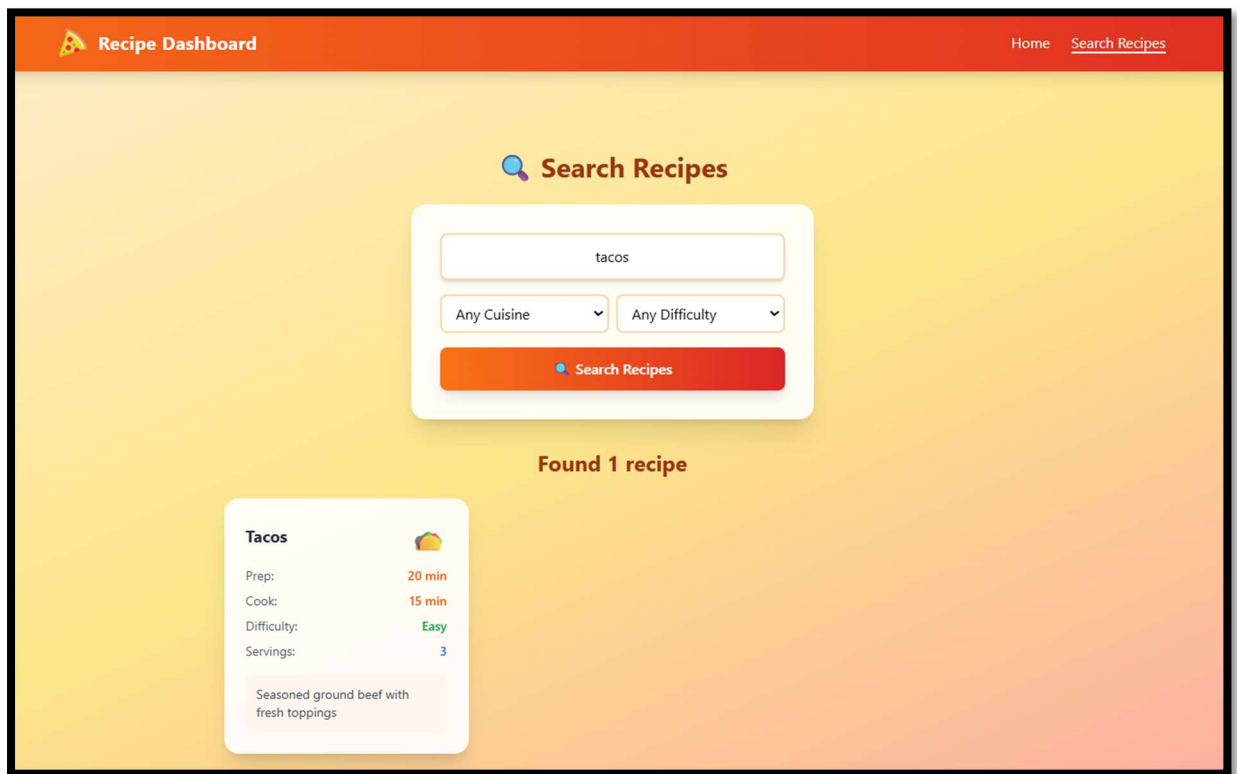
- When Cursor hover on the Card (Cursor is on the 2nd Card) :-



- After clicking on “Search Recipes” Section :-



- Searching a specific Recipe :-



30% Extra Content :-

Page Navigation with JavaScript

- Functions `showHome()` and `showSearch()` are added to toggle between the **Home page** and **Search page**.
- This provides multiple sections, not just a single UI.

Recipe Dataset (Mini Database)

- A recipes JavaScript array stores data like name, cuisine, difficulty, ingredients, etc.
- This goes beyond UI because it introduces **data management**.

Search & Filtering Logic

- The program allows searching recipes by **name, cuisine, difficulty, and ingredients**.
- Functions `searchRecipe()` and `displaySearchResults()` dynamically update the UI.

Dynamic Content Rendering

- Instead of only static cards, search results are created and inserted into the DOM using innerHTML.
- This makes the dashboard feel **interactive and real-time**.

Keyboard Event Listener

- The input box listens for the **Enter key** to trigger search automatically.
- This adds to user convenience but is beyond the original aim.

Conclusion :-

This project successfully demonstrates how to:

- Build a **modern, responsive, and interactive web UI** using **Tailwind CSS**.
- Implement **page navigation** and **search filtering** using **JavaScript DOM manipulation**.
- Apply **utility-first CSS styling** for faster development without writing custom CSS.
- Create a **real-world-like recipe dashboard** that is user-friendly and mobile-friendly.