

Answer Key

1. Set up the project in Visual Studio Code and GitHub utilizing npx and GitHub Copilot for code generation

1.1 Set up a new React.js project with the default project structure and configuration using the following command:

```
npm create vite@latest react-app --template react
```

```
C:\Users\akash\Desktop\Generative AI with MERN Stack\Lesson_05 - with MERN Using Generative AI\Practise project\practise-project>npm create vite@latest react-app --template react
```

```
C:\Users\akash\Desktop\Generative AI with MERN Stack\Lesson_05 - with MERN Using Generative AI\Practise project\practise-project>npm create vite@latest react-app --template react
* Select a framework:
  Vanilla
  Vue
  > React
  Preact
  Lit
  Svelte
  Solid
  Qwik
  Angular
  Others
```

```
C:\Users\akash\Desktop\Generative AI with MERN Stack\Lesson_05 - with MERN Using Generative AI\Practise project\practise-project>npm create vite@latest react-app --template react
o Select a framework:
  React

* Select a variant:
  TypeScript
  TypeScript + SWC
  JavaScript
  > JavaScript + SWC
  React Router v7 ↴
```

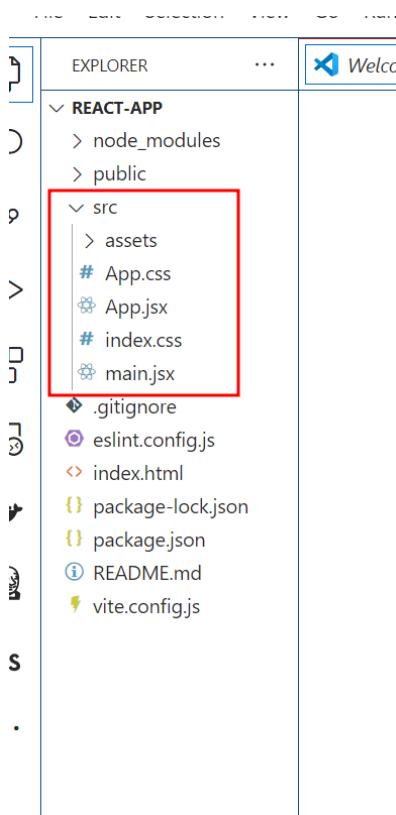
```
C:\Users\akash\Desktop\Generative AI with MERN Stack\Lesson_05 - with MERN Using Generative AI\project>npm create vite@latest react-app --template react
  Select a framework:
    React
  Select a variant:
    JavaScript + SWC
  Scaffolding project in C:\Users\akash\Desktop\Generative AI with MERN Stack\Lesson_05 - with MERN Using Generative AI\project\practise-project\react-app...
  Done. Now run:
  cd react-app
  npm install
  npm run dev
```

C:\Users\akash\Desktop\Generative AI with MERN Stack\Lesson_05 - with MERN Using Generative AI\project>

cd react-app
npm install

move inside a project
installed required dependencies to run the react js project

The basic React.js structure appears as follows:



2. Generate a basic user interface for recipe data using GitHub Copilot

2.1 Enhance the project by prompting GitHub Copilot to generate React.js code for a basic UI for the recipe app

@workspace create a basic UI for recipe app

/help What can you do?

@workspace create a basic UI for recipe app

@ ⌂ ⌂

Note: Copy the contents of the generated script and paste them into the existing **src\App.jsx** file

⚙ App.jsx:1-30

Workspace Generating.

> Used 10 references

✓ Collecting workspace information

I'll help you modify the App.jsx to create a basic recipe app UI. Here's the implementation:

```
import { useState } from 'react'
import './App.css'

function App() {
  const [recipes, setRecipes] = useState([
    {
      id: 1,
      title: 'Pasta Carbonara',
      ingredients: ['Spaghetti', 'Eggs', 'Pecorino Romano', 'Pancetta', 'Black Pe
      instructions: 'Cook pasta, mix with eggs and cheese, add crispy pancetta'
    },
    {
      ...
    }
  ])
}

export default App
```

3. Generate sample data using GitHub Copilot

3.1 Prompt GitHub Copilot to create sample data for the existing recipe app

@wokspace create sample data for it in external file

```
-----  
      'Olive oil - 2 tablespoons'  
-----  
@wokspace create sample data for it in external file  
App.jsx Current file ⌂  
@ ⌂ ⌂
```

App.jsx:1-50

 GitHub Copilot Generating
Used 1 reference

I'll help you create a separate data file for the recipes. Here's how to structure it:

```
export const recipesData = [  
  {  
    id: 1,  
    title: 'Pasta Carbonara',  
    ingredients: [  
      'Spaghetti - 1 pound',  
      'Large eggs - 4',  
      'Pecorino Romano - 1 cup, grated',  
      'Pancetta - 8 ounces, diced',  
      'Black Pepper - 2 teaspoons',  
      'Salt - to taste',  
      'Olive oil - 2 tablespoons'  
    ],  
    instructions: «
```

Create the folder with name as data and inside that create the recipes.js file and copy/paste the generate code.

3.2 Open **App.jsx** and import the newly created **data/recipe.js** by adding the following script:

```
import { recipesData } from './data/recipes'
```

4. Generate React code to display the recipes using the user interface

4.1 Prompt GitHub Copilot to generate code to display the recipe data using the user interface

show these recipes in UI

- Separates data concerns from component logic
- Makes the data more maintainable

show these recipes in UI

App.jsx:2 Current file ⚡

@ ⌂ ⌂

SHOW THESE RECIPES IN UI

App.jsx:2

⌚ GitHub Copilot Generating..

Used 1 reference

I'll help you modify the [App.jsx](#) to better display the recipe data and add some styling. Here are the changes:

1. First, update the [App.jsx](#) to display more recipe details:

```
import { useState } from 'react'
import { recipesData } from './data/recipes'
import './App.css'

function App() {
  const [recipes, setRecipes] = useState(recipesData)

  return (
    <div className="app">
      <h1>My Recipe Book</h1>
```

App.jsx

```
import { useState } from 'react'
```

```
import { recipesData } from './data/recipes'
import './App.css'

function App() {
  const [recipes, setRecipes] = useState(recipesData)

  return (
    <div className="app">
      <h1>My Recipe Book</h1>

      <div className="recipes-container">
        {recipes.map(recipe => (
          <div key={recipe.id} className="recipe-card">
            <h2>{recipe.title}</h2>
            <div className="recipe-meta">
              <span>Category: {recipe.category}</span>
              <span>Prep: {recipe.prepTime}</span>
              <span>Cook: {recipe.cookTime}</span>
              <span>Servings: {recipe.servings}</span>
            </div>
            <div className="recipe-content">
              <div className="ingredients">
                <h3>Ingredients:</h3>
                <ul>
                  {recipe.ingredients.map((ingredient, index) => (
                    <li key={index}>{ingredient}</li>
                  ))}
                </ul>
              </div>
              <div className="instructions">
                <h3>Instructions:</h3>
                <ol>
                  {recipe.instructions.map((step, index) => (
                    <li key={index}>{step}</li>
                  ))}
                </ol>
              </div>
            </div>
          </div>
        ))}
      </div>
    )
  }
}
```

```
export default App
```

Add new styling rule in App.css file

App.css

```
#root {  
  max-width: 1280px;  
  margin: 0 auto;  
  padding: 2rem;  
  text-align: center;  
}  
  
.logo {  
  height: 6em;  
  padding: 1.5em;  
  will-change: filter;  
  transition: filter 300ms;  
}  
.logo:hover {  
  filter: drop-shadow(0 0 2em #646cffaa);  
}  
.logo.react:hover {  
  filter: drop-shadow(0 0 2em #61dafbaa);  
}  
  
@keyframes logo-spin {  
  from {  
    transform: rotate(0deg);  
  }  
  to {  
    transform: rotate(360deg);  
  }  
}  
  
@media (prefers-reduced-motion: no-preference) {  
  a:nth-of-type(2) .logo {  
    animation: logo-spin infinite 20s linear;  
  }  
}
```

```
.card {
  padding: 2em;
}

.read-the-docs {
  color: #888;
}

.app {
  max-width: 1200px;
  margin: 0 auto;
  padding: 2rem;
}

h1 {
  text-align: center;
  color: #333;
  margin-bottom: 2rem;
}

.recipes-container {
  display: grid;
  grid-template-columns: repeat(auto-fit, minmax(350px, 1fr));
  gap: 2rem;
}

.recipe-card {
  background: white;
  border-radius: 10px;
  padding: 1.5rem;
  box-shadow: 0 2px 5px rgba(0,0,0,0.1);
}

.recipe-card h2 {
  color: #2c3e50;
  margin-bottom: 1rem;
  border-bottom: 2px solid #3498db;
  padding-bottom: 0.5rem;
}

.recipe-meta {
  display: flex;
  flex-wrap: wrap;
  gap: 1rem;
}
```

```
margin-bottom: 1.5rem;
font-size: 0.9rem;
}

.recipe-meta span {
background: #f0f0f0;
padding: 0.3rem 0.8rem;
border-radius: 15px;
color: #666;
}

.recipe-content {
display: flex;
flex-direction: column;
gap: 1.5rem;
}

.ingredients ul {
list-style-type: disc;
padding-left: 1.5rem;
}

.instructions ol {
padding-left: 1.5rem;
line-height: 1.6;
}

.instructions li {
margin-bottom: 0.5rem;
}

h3 {
color: #2c3e50;
margin-bottom: 0.8rem;
}
```

4.2 Run the react project after updating App.js

npm run dev

```
VITE v6.2.0 ready in 256 ms

→ Local: http://localhost:5173/
→ Network: use --host to expose
→ press h + enter to show help
```

Output on browser as

The screenshot shows a web browser window with the address bar containing "localhost:5173". Below the address bar, there are several small icons and text labels. The main content area displays a recipe card for "Pasta Carbonara". The card has a title "My Recipe Book" at the top. Below it, the recipe title is "Pasta Carbonara". Underneath the title, there are four circular buttons labeled "Category: Italian", "Prep: 15 minutes", "Cook: 20 minutes", and "Servings: 4". The "Category: Italian" button is highlighted with a red box. The "Ingredients:" section lists the following items:

- Spaghetti - 1 pound
- Large eggs - 4
- Pecorino Romano - 1 cup, grated
- Pancetta - 8 ounces, diced
- Black Pepper - 2 teaspoons
- Salt - to taste
- Olive oil - 2 tablespoons

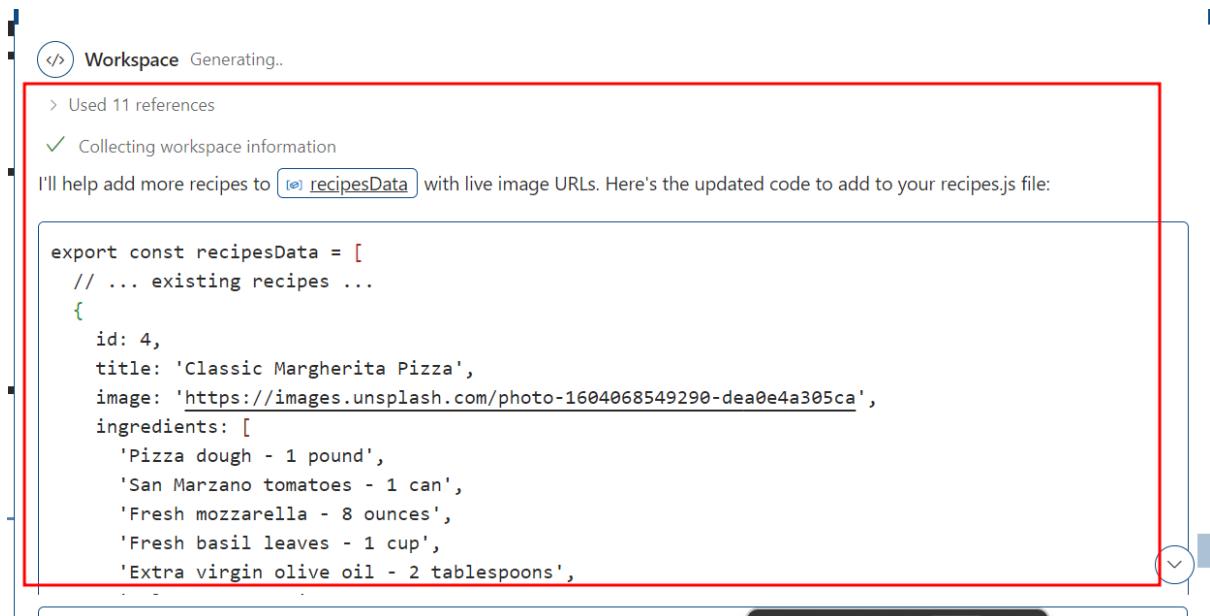
The "Instructions:" section contains the following steps:

1. Cook pasta in salted water until al dente
2. Fry pancetta until crispy
3. Whisk eggs and cheese in a bowl
4. Toss hot pasta with egg mixture

5. Generate a React code to add more recipes to the recipe app

5.1 Improve the recipe app by adding more recipes using GitHub Copilot prompts

@workspace add more recipes with images with live image url



The screenshot shows the GitHub Copilot interface in a browser window. The title bar says "Workspace Generating..". Below it, a red box highlights the status messages: "Used 11 references" and "Collecting workspace information". A message from GitHub Copilot states: "I'll help add more recipes to [recipesData] with live image URLs. Here's the updated code to add to your recipes.js file:". The code block contains the following JavaScript:

```
export const recipesData = [
  // ... existing recipes ...
  {
    id: 4,
    title: 'Classic Margherita Pizza',
    image: 'https://images.unsplash.com/photo-1604068549290-dea0e4a305ca',
    ingredients: [
      'Pizza dough - 1 pound',
      'San Marzano tomatoes - 1 can',
      'Fresh mozzarella - 8 ounces',
      'Fresh basil leaves - 1 cup',
      'Extra virgin olive oil - 2 tablespoons',
    ],
  },
]
```

The following React.js code will be generated by GitHub Copilot:

Update the recipes.js file code

```
export const recipesData = [  
  
  {  
    id: 4,  
    title: 'Classic Margherita Pizza',  
    image: 'https://images.unsplash.com/photo-1604068549290-dea0e4a305ca',  
    ingredients: [  
      'Pizza dough - 1 pound',  
      'San Marzano tomatoes - 1 can',  
      'Fresh mozzarella - 8 ounces',  
      'Fresh basil leaves - 1 cup',  
      'Extra virgin olive oil - 2 tablespoons',  
      'Salt - to taste'  
    ],  
    instructions: [  
      'Preheat oven to 500°F with pizza stone',  
      'Stretch dough into 12-inch circle',  
      'Top with crushed tomatoes',  
      'Add torn mozzarella pieces',  
      'Bake for 12-15 minutes',  
      'Garnish with fresh basil and olive oil'  
    ],  
    category: 'Italian',  
    prepTime: '25 minutes',  
    cookTime: '15 minutes',  
    servings: 4  
  },  
  {  
    id: 5,  
    title: 'Sushi Roll',  
    image: 'https://images.unsplash.com/photo-1579871494447-9811cf80d66c',  
    ingredients: [  
      'Sushi rice - 2 cups',  
      'Nori sheets - 4',  
      'Fresh salmon - 8 ounces',  
      'Cucumber - 1, julienned',  
      'Avocado - 1, sliced',  
      'Rice vinegar - 1/4 cup',  
      'Wasabi and soy sauce - to serve'  
    ],  
    instructions: [  
      'Cook and season rice with vinegar',  
      'Place nori on bamboo mat',  
      'Spread rice on nori',  
      'Add salmon, cucumber, and avocado',  
      'Drizzle with rice vinegar',  
      'Garnish with wasabi and soy sauce'  
    ]  
  }];
```

```
'Add fish and vegetables',
'Roll tightly using mat',
'Cut into 8 pieces'
],
category: 'Japanese',
prepTime: '30 minutes',
cookTime: '20 minutes',
servings: 4
},
{
id: 6,
title: 'Thai Green Curry',
image: 'https://images.unsplash.com/photo-1455619452474-d2be8b1e70cd',
ingredients: [
'Coconut milk - 2 cans',
'Green curry paste - 4 tablespoons',
'Chicken breast - 1 pound, sliced',
'Thai eggplants - 4, quartered',
'Bamboo shoots - 1 cup',
'Thai basil - 1 cup',
'Fish sauce - 2 tablespoons',
'Palm sugar - 1 tablespoon'
],
instructions: [
'Simmer coconut milk until oil separates',
'Stir in curry paste and cook until fragrant',
'Add chicken and cook until nearly done',
'Add vegetables and remaining coconut milk',
'Season with fish sauce and palm sugar',
'Garnish with Thai basil'
],
category: 'Thai',
prepTime: '20 minutes',
cookTime: '25 minutes',
servings: 4
}
]
```

Update new content for App.jsx as well as App.css file

App.jsx

```
import { useState } from 'react'
import { recipesData } from './data/recipes'
import './App.css'

function App() {
  const [recipes, setRecipes] = useState(recipesData)

  return (
    <div className="app">
      <h1>My Recipe Book</h1>

      <div className="recipes-container">
        {recipes.map(recipe => (
          <div key={recipe.id} className="recipe-card">
            {recipe.image && (
              <div className="recipe-image">
                <img src={recipe.image} alt={recipe.title} />
              </div>
            )}
            <h2>{recipe.title}</h2>
            <div className="recipe-meta">
              <span>Category: {recipe.category}</span>
              <span>Prep: {recipe.prepTime}</span>
              <span>Cook: {recipe.cookTime}</span>
              <span>Servings: {recipe.servings}</span>
            </div>
            <div className="recipe-content">
              <div className="ingredients">
                <h3>Ingredients:</h3>
                <ul>
                  {recipe.ingredients.map((ingredient, index) => (
                    <li key={index}>{ingredient}</li>
                  ))}
                </ul>
              </div>
              <div className="instructions">
                <h3>Instructions:</h3>
                <ol>
                  {recipe.instructions.map((step, index) => (
                    <li key={index}>{step}</li>
                  ))}
                </ol>
              </div>
            </div>
          </div>
        ))
      </div>
    </div>
  )
}

export default App
```

```
        </div>
    </div>
</div>
    )})
</div>
</div>
)
}

export default App
```

App.css

```
#root {
    max-width: 1280px;
    margin: 0 auto;
    padding: 2rem;
    text-align: center;
}

.logo {
    height: 6em;
    padding: 1.5em;
    will-change: filter;
    transition: filter 300ms;
}
.logo:hover {
    filter: drop-shadow(0 0 2em #646cffaa);
}
.logo.react:hover {
    filter: drop-shadow(0 0 2em #61dafbaa);
}

@keyframes logo-spin {
    from {
        transform: rotate(0deg);
    }
    to {
        transform: rotate(360deg);
    }
}
```

```
@media (prefers-reduced-motion: no-preference) {  
  a:nth-of-type(2) .logo {  
    animation: logo-spin infinite 20s linear;  
  }  
}  
  
.card {  
  padding: 2em;  
}  
  
.read-the-docs {  
  color: #888;  
}  
  
.app {  
  max-width: 1200px;  
  margin: 0 auto;  
  padding: 2rem;  
}  
  
h1 {  
  text-align: center;  
  color: #333;  
  margin-bottom: 2rem;  
}  
  
.recipes-container {  
  display: grid;  
  grid-template-columns: repeat(auto-fit, minmax(350px, 1fr));  
  gap: 2rem;  
}  
  
.recipe-card {  
  background: white;  
  border-radius: 10px;  
  padding: 1.5rem;  
  box-shadow: 0 2px 5px rgba(0,0,0,0.1);  
  display: flex;  
  flex-direction: column;  
  overflow: hidden;  
}  
  
.recipe-card h2 {  
  color: #2c3e50;
```

```
    margin-bottom: 1rem;
    border-bottom: 2px solid #3498db;
    padding-bottom: 0.5rem;
}
```

```
.recipe-meta {
  display: flex;
  flex-wrap: wrap;
  gap: 1rem;
  margin-bottom: 1.5rem;
  font-size: 0.9rem;
}
```

```
.recipe-meta span {
  background: #f0f0f0;
  padding: 0.3rem 0.8rem;
  border-radius: 15px;
  color: #666;
}
```

```
.recipe-content {
  display: flex;
  flex-direction: column;
  gap: 1.5rem;
}
```

```
.recipe-image {
  width: 100%;
  height: 200px;
  overflow: hidden;
  border-radius: 8px 8px 0 0;
  margin-bottom: 1rem;
}
```

```
.recipe-image img {
  width: 100%;
  height: 100%;
  object-fit: cover;
  transition: transform 0.3s ease;
}
```

```
.recipe-image img:hover {
  transform: scale(1.05);
}
```

```
.ingredients ul {  
    list-style-type: disc;  
    padding-left: 1.5rem;  
}  
  
.instructions ol {  
    padding-left: 1.5rem;  
    line-height: 1.6;  
}  
  
.instructions li {  
    margin-bottom: 0.5rem;  
}  
  
h3 {  
    color: #2c3e50;  
    margin-bottom: 0.8rem;  
}
```

6. Create the Recipe Detail Component to display detailed information about each recipe

6.1 Prompt GitHub Copilot to generate a React code for displaying details of each recipe
show all receipts in card format in UI, on click particular image display the recipe details apply good look and feel using CSS

show it in card format in UI, on click of card it should load the details

App.css:1-137 Current file 

@ 0 0

Note: Copy the contents of the generated script and paste them into the existing **src\App.jsx** as well as **App.css** file

Apply new updated in App.js and App.css file

App.jsx

```
import { useState } from 'react'
import { recipesData } from './data/recipes'
import './App.css'

function App() {
  const [recipes, setRecipes] = useState(recipesData)
  const [selectedRecipe, setSelectedRecipe] = useState(null)

  const handleRecipeClick = (recipe) => {
    setSelectedRecipe(recipe)
  }

  const handleClose = () => {
    setSelectedRecipe(null)
  }

  return (
    <div className="app">
      <h1>My Recipe Book</h1>

      <div className="recipes-container">
        {recipes.map(recipe => (
          <div
            key={recipe.id}
            className="recipe-card"
            onClick={() => handleRecipeClick(recipe)}
          >
            <div className="recipe-image">
              <img src={recipe.image} alt={recipe.title} />
            </div>
            <div className="recipe-card-content">
              <h2>{recipe.title}</h2>
              <div className="recipe-meta">
                <span>{recipe.category}</span>
                <span>{recipe.prepTime}</span>
              </div>
            </div>
          </div>
        )))
      </div>
    </div>
  )
}

export default App
```

```
</div>

{selectedRecipe && (
  <div className="recipe-modal-overlay" onClick={handleClose}>
    <div className="recipe-modal" onClick={e => e.stopPropagation()}>
      <button className="close-button" onClick={handleClose}>&times;</button>
      <div className="recipe-detail">
        <div className="recipe-detail-image">
          <img src={selectedRecipe.image} alt={selectedRecipe.title} />
        </div>
        <h2>{selectedRecipe.title}</h2>
        <div className="recipe-meta">
          <span>Category: {selectedRecipe.category}</span>
          <span>Prep: {selectedRecipe.prepTime}</span>
          <span>Cook: {selectedRecipe.cookTime}</span>
          <span>Servings: {selectedRecipe.servings}</span>
        </div>
        <div className="recipe-content">
          <div className="ingredients">
            <h3>Ingredients</h3>
            <ul>
              {selectedRecipe.ingredients.map((ingredient, index) => (
                <li key={index}>{ingredient}</li>
              )))
            </ul>
          </div>
          <div className="instructions">
            <h3>Instructions</h3>
            <ol>
              {selectedRecipe.instructions.map((step, index) => (
                <li key={index}>{step}</li>
              )))
            </ol>
          </div>
        </div>
      </div>
    </div>
  </div>
)
}

}
```

```
export default App
```

App.css file

```
#root {
  max-width: 1280px;
  margin: 0 auto;
  padding: 2rem;
  text-align: center;
}

.logo {
  height: 6em;
  padding: 1.5em;
  will-change: filter;
  transition: filter 300ms;
}
.logo:hover {
  filter: drop-shadow(0 0 2em #646cffaa);
}
.logo.react:hover {
  filter: drop-shadow(0 0 2em #61dafbaa);
}

@keyframes logo-spin {
  from {
    transform: rotate(0deg);
  }
  to {
    transform: rotate(360deg);
  }
}

@media (prefers-reduced-motion: no-preference) {
  a:nth-of-type(2) .logo {
    animation: logo-spin infinite 20s linear;
  }
}

.card {
  padding: 2em;
}

.read-the-docs {
```

```
color: #888;
}

.app {
  max-width: 1200px;
  margin: 0 auto;
  padding: 2rem;
}

h1 {
  text-align: center;
  color: #2c3e50;
  margin-bottom: 3rem;
  font-size: 2.5rem;
}

.recipes-container {
  display: grid;
  grid-template-columns: repeat(auto-fill, minmax(280px, 1fr));
  gap: 2rem;
  padding: 1rem;
}

.recipe-card {
  background: white;
  border-radius: 12px;
  overflow: hidden;
  box-shadow: 0 4px 15px rgba(0,0,0,0.1);
  transition: transform 0.3s ease, box-shadow 0.3s ease;
  cursor: pointer;
}

.recipe-card:hover {
  transform: translateY(-5px);
  box-shadow: 0 8px 20px rgba(0,0,0,0.15);
}

.recipe-card h2 {
  margin: 0;
  color: #2c3e50;
  font-size: 1.25rem;
  margin-bottom: 0.5rem;
}
```

```
.recipe-meta {  
    display: flex;  
    gap: 0.8rem;  
    flex-wrap: wrap;  
}  
  
.recipe-meta span {  
    background: #f0f2f5;  
    padding: 0.4rem 0.8rem;  
    border-radius: 20px;  
    font-size: 0.875rem;  
    color: #666;  
}  
  
.recipe-content {  
    display: grid;  
    grid-template-columns: 1fr 1fr;  
    gap: 2rem;  
}  
  
.recipe-image {  
    width: 100%;  
    height: 200px;  
    overflow: hidden;  
}  
  
.recipe-image img {  
    width: 100%;  
    height: 100%;  
    object-fit: cover;  
    transition: transform 0.3s ease;  
}  
  
.recipe-card:hover .recipe-image img {  
    transform: scale(1.05);  
}  
  
.recipe-card-content {  
    padding: 1.5rem;  
}  
  
.ingredients ul {  
    list-style-type: disc;  
    padding-left: 1.5rem;
```

```
}
```

```
.instructions ol {
```

```
  padding-left: 1.5rem;
```

```
  line-height: 1.6;
```

```
}
```

```
.instructions li {
```

```
  margin-bottom: 0.5rem;
```

```
}
```

```
h3 {
```

```
  color: #2c3e50;
```

```
  margin-bottom: 1rem;
```

```
  font-size: 1.25rem;
```

```
}
```

```
.recipe-modal-overlay {
```

```
  position: fixed;
```

```
  top: 0;
```

```
  left: 0;
```

```
  right: 0;
```

```
  bottom: 0;
```

```
  background: rgba(0, 0, 0, 0.75);
```

```
  display: flex;
```

```
  justify-content: center;
```

```
  align-items: center;
```

```
  padding: 2rem;
```

```
  z-index: 1000;
```

```
}
```

```
.recipe-modal {
```

```
  background: white;
```

```
  border-radius: 12px;
```

```
  padding: 2rem;
```

```
  max-width: 800px;
```

```
  width: 90%;
```

```
  max-height: 90vh;
```

```
  overflow-y: auto;
```

```
  position: relative;
```

```
}
```

```
.close-button {
```

```
  position: absolute;
```

```
    top: 1rem;
    right: 1rem;
    background: none;
    border: none;
    font-size: 2rem;
    cursor: pointer;
    color: #666;
    transition: color 0.3s ease;
}
```

```
.close-button:hover {
    color: #333;
}
```

```
.recipe-detail-image {
    width: 100%;
    height: 300px;
    border-radius: 8px;
    overflow: hidden;
    margin-bottom: 2rem;
}
```

```
.recipe-detail-image img {
    width: 100%;
    height: 100%;
    object-fit: cover;
}
```

```
.recipe-detail h2 {
    color: #2c3e50;
    margin-bottom: 1rem;
    font-size: 1.75rem;
}
```

```
.recipe-detail .recipe-meta {
    margin-bottom: 2rem;
}
```

```
@media (max-width: 768px) {
    .recipe-content {
        grid-template-columns: 1fr;
    }
}
```

```
.ingredients ul {  
list-style-type: disc;  
padding-left: 1.5rem;  
margin: 0;  
}  
  
.instructions ol {  
padding-left: 1.5rem;  
margin: 0;  
}  
  
.ingredients li,  
.instructions li {  
margin-bottom: 0.5rem;  
line-height: 1.6;  
color: #4a4a4a;  
}
```

Now check updated output

← → ⌂ ⓘ localhost:5173

Imported From Fire... zm Post Attendee - Zoo... Adobe Acrobat

My Recipe Book



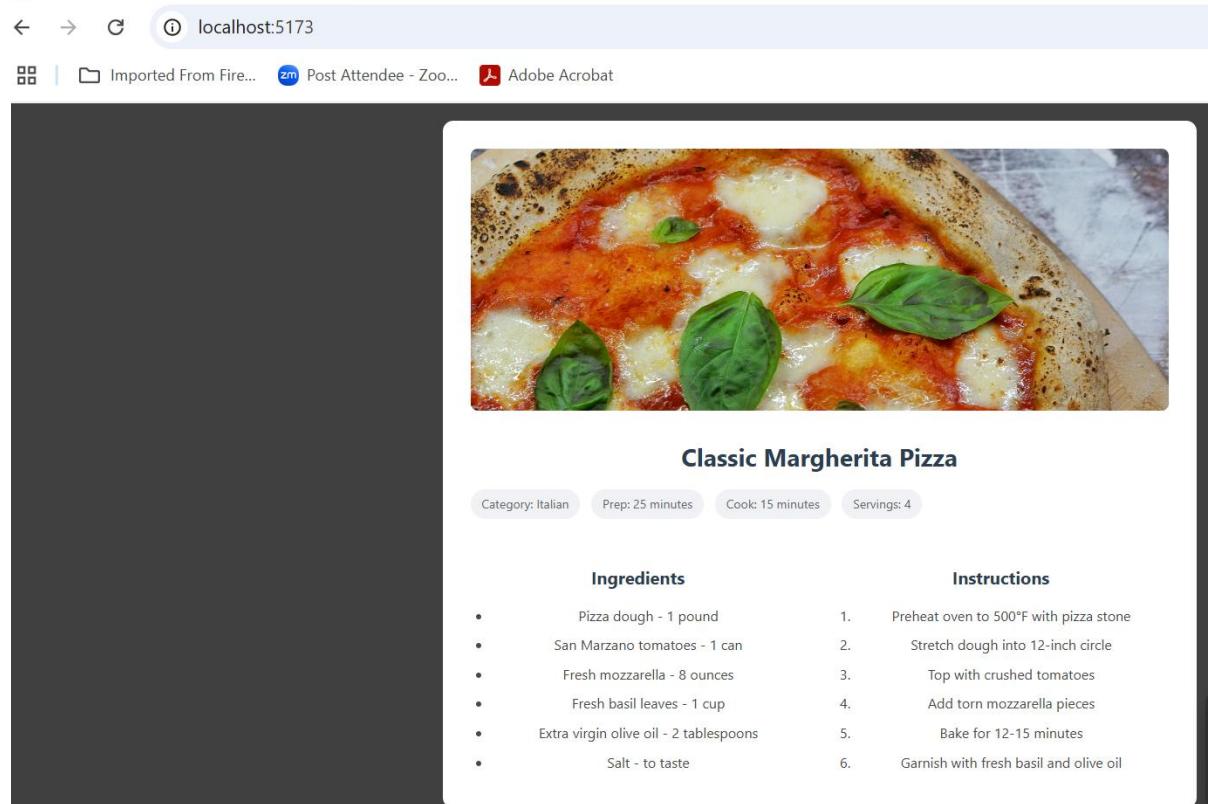
Classic Margherita Pizza

Italian 25 minutes



Sushi Roll

When you click on particular image you get that image details



7. Implement search functionality to enable users to search for specific recipes

7.1 Design a search feature by prompting GitHub Copilot
@workspace implement search recipe functionality

 Workspace Generating

> Used 12 references

✓ Collecting workspace information

I'll help you implement search functionality for the recipes in App.jsx. Here's how to modify the code:

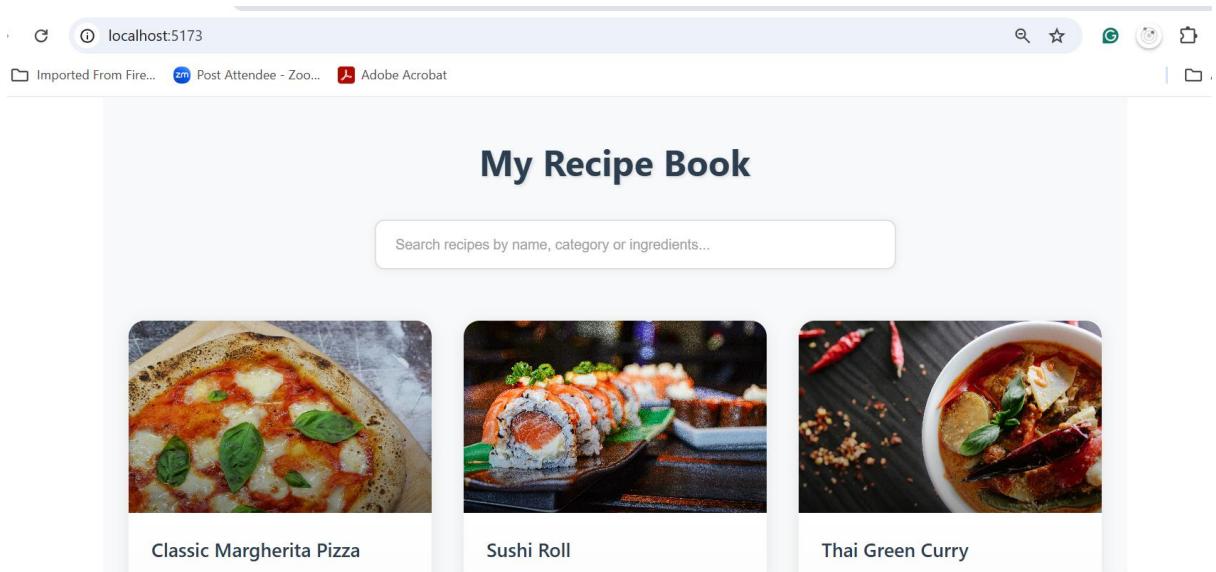
```
import { useState } from 'react'
import { recipesData } from './data/recipes'
import './App.css'

function App() {
  const [recipes, setRecipes] = useState(recipesData)
  const [selectedRecipe, setSelectedRecipe] = useState(null)
  const [searchTerm, setSearchTerm] = useState('')

  const handleRecipeClick = (recipe) => {
    setSelectedRecipe(recipe)
  }
}
```

After get new code update the code in App.jsx and App.css file

The output will appear as follows:





Classic Margherita Pizza

Category: Italian Prep: 25 minutes Cook: 15 minutes Servings: 4

Ingredients	Instructions
<ul style="list-style-type: none">Pizza dough - 1 poundSan Marzano tomatoes - 1 canFresh mozzarella - 8 ouncesFresh basil leaves - 1 cupExtra virgin olive oil - 2 tablespoonsSalt - to taste	<ol style="list-style-type: none">Preheat oven to 500°F with pizza stoneStretch dough into 12-inch circleTop with crushed tomatoesAdd torn mozzarella piecesBake for 12-15 minutesGarnish with fresh basil and olive oil

The final code of all the file as below

App.css

```
/* Root and Global Styles */  
#root {  
  max-width: 1280px;  
  margin: 0 auto;  
  padding: 2rem;  
}  
  
.app {  
  background-color: #f8f9fa;  
  min-height: 100vh;  
  padding: 2rem 1rem;  
}  
  
/* Header Styles */  
h1 {
```

```
text-align: center;
color: #2c3e50;
margin-bottom: 3rem;
font-size: 2.8rem;
font-weight: 700;
text-shadow: 2px 2px 4px rgba(0,0,0,0.1);
}

/* Search Styles */
.search-container {
    margin: 2rem auto 3rem;
    max-width: 600px;
    padding: 0 1rem;
    position: relative;
}

.search-input {
    width: 100%;
    padding: 1.2rem 1.5rem;
    font-size: 1.1rem;
    border: 2px solid #e0e0e0;
    border-radius: 12px;
    background-color: white;
    color: #2c3e50;
    transition: all 0.3s ease;
    box-shadow: 0 2px 10px rgba(0,0,0,0.05);
}

.search-input:focus {
    outline: none;
    border-color: #646cff;
    box-shadow: 0 4px 15px rgba(100,108,255,0.1);
}

.search-input::placeholder {
    color: #a0a0a0;
}

.logo {
    height: 6em;
    padding: 1.5em;
    will-change: filter;
    transition: filter 300ms;
}
```

```
.logo:hover {
  filter: drop-shadow(0 0 2em #646cffaa);
}
.logo.react:hover {
  filter: drop-shadow(0 0 2em #61dafbaa);
}

@keyframes logo-spin {
  from {
    transform: rotate(0deg);
  }
  to {
    transform: rotate(360deg);
  }
}

@media (prefers-reduced-motion: no-preference) {
  a:nth-of-type(2) .logo {
    animation: logo-spin infinite 20s linear;
  }
}

.card {
  padding: 2em;
}

.read-the-docs {
  color: #888;
}

/* Recipe Grid Container */
.recipes-container {
  display: grid;
  grid-template-columns: repeat(auto-fill, minmax(320px, 1fr));
  gap: 2.5rem;
  padding: 1rem;
  max-width: 1400px;
  margin: 0 auto;
}

/* Recipe Card Styles */
.recipe-card {
  background: white;
  border-radius: 20px;
```

```
        overflow: hidden;
        box-shadow: 0 4px 20px rgba(0,0,0,0.08);
        transition: all 0.4s ease;
        display: flex;
        flex-direction: column;
        height: 100%;
        cursor: pointer;
    }

.recipe-card:hover {
    transform: translateY(-8px) scale(1.01);
    box-shadow: 0 12px 30px rgba(0,0,0,0.12);
}

/* Recipe Image Styles */
.recipe-image {
    position: relative;
    height: 240px;
    overflow: hidden;
}

.recipe-image::after {
    content: "";
    position: absolute;
    bottom: 0;
    left: 0;
    right: 0;
    height: 60%;
    background: linear-gradient(to top, rgba(0,0,0,0.4), transparent);
    transition: opacity 0.3s ease;
}

.recipe-image img {
    width: 100%;
    height: 100%;
    object-fit: cover;
    transition: transform 0.6s ease;
}

.recipe-card:hover .recipe-image img {
    transform: scale(1.1);
}

/* Recipe Content Styles */
```

```
.recipe-card-content {  
  padding: 1.8rem;  
  display: flex;  
  flex-direction: column;  
  gap: 1.2rem;  
  flex: 1;  
  background: linear-gradient(to bottom, #ffffff, #f8f9fa);  
}  
  
/* Recipe Card Content */
```

```
.recipe-card h2 {  
  color: #2c3e50;  
  font-size: 1.5rem;  
  font-weight: 600;  
  margin: 0;  
  line-height: 1.4;  
}  
  
/* Recipe Card Content */
```

```
/* Meta Information Styles */  
.recipe-meta {  
  display: flex;  
  flex-wrap: wrap;  
  gap: 0.8rem;  
  margin-top: auto;  
}  
  
/* Recipe Meta */
```

```
.recipe-meta span {  
  background: #f0f2f5;  
  color: #2c3e50;  
  padding: 0.6rem 1.2rem;  
  border-radius: 25px;  
  font-size: 0.9rem;  
  font-weight: 500;  
  border: 1px solid rgba(0,0,0,0.05);  
  transition: all 0.3s ease;  
}  
  
/* Recipe Meta */
```

```
.recipe-meta span:hover {  
  background: #e8eaf0;  
  transform: translateY(-2px);  
}  
  
/* Recipe Meta */
```

```
/* Modal Overlay and Container */  
.recipe-modal-overlay {  
  position: fixed;
```

```
top: 0;
left: 0;
right: 0;
bottom: 0;
background: rgba(0, 0, 0, 0.75);
display: flex;
justify-content: center;
align-items: center;
padding: 1rem;
z-index: 1000;
backdrop-filter: blur(5px);
}

.recipe-modal {
background: white;
border-radius: 20px;
padding: 2rem;
width: 90%;
max-width: 800px;
max-height: 85vh;
overflow-y: auto;
position: relative;
box-shadow: 0 10px 30px rgba(0, 0, 0, 0.2);
}

/* Recipe Detail Image */
.recipe-detail-image {
width: 100%;
height: 250px;
border-radius: 12px;
overflow: hidden;
margin-bottom: 1.5rem;
box-shadow: 0 4px 15px rgba(0, 0, 0, 0.1);
}

.recipe-detail-image img {
width: 100%;
height: 100%;
object-fit: cover;
}

/* Recipe Detail Content */
.recipe-detail {
padding: 0 1rem;
```

```
}

.recipe-detail h2 {
  color: #2c3e50;
  font-size: 1.8rem;
  margin-bottom: 1rem;
}

.recipe-content {
  display: grid;
  grid-template-columns: 1fr 1fr;
  gap: 2rem;
  margin-top: 2rem;
}

/* Meta Information in Modal */
.recipe-detail .recipe-meta {
  display: flex;
  flex-wrap: wrap;
  gap: 1rem;
  margin-bottom: 1.5rem;
}

.recipe-detail .recipe-meta span {
  background: #f0f2f5;
  padding: 0.5rem 1rem;
  border-radius: 20px;
  font-size: 0.9rem;
  color: #2c3e50;
}

/* Close Button */
.close-button {
  position: absolute;
  top: 1rem;
  right: 1rem;
  background: white;
  border: none;
  width: 32px;
  height: 32px;
  border-radius: 50%;
  font-size: 1.5rem;
  cursor: pointer;
  display: flex;
```

```
    align-items: center;
    justify-content: center;
    box-shadow: 0 2px 8px rgba(0, 0, 0, 0.1);
    transition: all 0.3s ease;
}

.close-button:hover {
    background: #f0f2f5;
    transform: scale(1.1);
}

/* Responsive adjustments */
@media (max-width: 768px) {
    .recipes-container {
        grid-template-columns: repeat(auto-fill, minmax(250px, 1fr));
        gap: 1.5rem;
        padding: 1rem;
    }

    .recipe-image {
        align-items: center;
        padding: 2rem;
        z-index: 1000;
    }

    .recipe-modal {
        background: white;
        border-radius: 12px;
        padding: 2rem;
        max-width: 800px;
        width: 90%;
        max-height: 90vh;
        overflow-y: auto;
        position: relative;
    }

    .close-button {
        position: absolute;
        top: 1rem;
        right: 1rem;
        background: none;
        border: none;
        font-size: 2rem;
        cursor: pointer;
    }
}
```

```
color: #666;
transition: color 0.3s ease;
}

.close-button:hover {
color: #333;
}

.recipe-detail-image {
width: 100%;
height: 300px;
border-radius: 8px;
overflow: hidden;
margin-bottom: 2rem;
}

.recipe-detail-image img {
width: 100%;
height: 100%;
object-fit: cover;
}

.recipe-detail h2 {
color: #2c3e50;
margin-bottom: 1rem;
font-size: 1.75rem;
}

.recipe-detail .recipe-meta {
margin-bottom: 2rem;
}

@media (max-width: 768px) {
.recipe-content {
grid-template-columns: 1fr;
}
}

.ingredients ul {
list-style-type: disc;
padding-left: 1.5rem;
margin: 0;
}
```

```
.instructions ol {
  padding-left: 1.5rem;
  margin: 0;
}

.ingredients li,
.instructions li {
  margin-bottom: 0.5rem;
  line-height: 1.6;
  color: #4a4a4a;
}

.search-container {
  margin: 2rem auto 3rem;
  max-width: 600px;
  padding: 0 1rem;
  position: relative;
}

.search-input {
  width: 100%;
  padding: 1.2rem 1.5rem;
  font-size: 1.1rem;
  border: 2px solid #e0e0e0;
  border-radius: 12px;
  background-color: white;
  color: #2c3e50;
  transition: all 0.3s ease;
  box-shadow: 0 2px 10px rgba(0,0,0,0.05);
}

.search-input:focus {
  outline: none;
  border-color: #646cff;
  box-shadow: 0 4px 15px rgba(100,108,255,0.1);
}

.search-input::placeholder {
  color: #a0a0a0;
}

.recipe-modal {
  padding: 1.5rem;
  width: 95%;
```

```
}

.recipe-detail-image {
  height: 200px;
}

.recipe-content {
  grid-template-columns: 1fr;
  gap: 1.5rem;
}

.recipe-detail h2 {
  font-size: 1.5rem;
}

.recipe-detail {
  padding: 0;
}
```

recipes.js

```
export const recipesData = [

  {
    id: 4,
    title: 'Classic Margherita Pizza',
    image: 'https://images.unsplash.com/photo-1604068549290-dea0e4a305ca',
    ingredients: [
      'Pizza dough - 1 pound',
      'San Marzano tomatoes - 1 can',
      'Fresh mozzarella - 8 ounces',
      'Fresh basil leaves - 1 cup',
      'Extra virgin olive oil - 2 tablespoons',
      'Salt - to taste'
    ],
    instructions: [
      'Preheat oven to 500°F with pizza stone',
      'Stretch dough into 12-inch circle',
      'Top with crushed tomatoes',
      'Add torn mozzarella pieces',
      'Bake for 12-15 minutes',
      'Garnish with fresh basil and olive oil'
    ],
  }
]
```

```
category: 'Italian',
prepTime: '25 minutes',
cookTime: '15 minutes',
servings: 4
},
{
id: 5,
title: 'Sushi Roll',
image: 'https://images.unsplash.com/photo-1579871494447-9811cf80d66c',
ingredients: [
'Sushi rice - 2 cups',
'Nori sheets - 4',
'Fresh salmon - 8 ounces',
'Cucumber - 1, julienned',
'Avocado - 1, sliced',
'Rice vinegar - 1/4 cup',
'Wasabi and soy sauce - to serve'
],
instructions: [
'Cook and season rice with vinegar',
'Place nori on bamboo mat',
'Spread rice on nori',
'Add fish and vegetables',
'Roll tightly using mat',
'Cut into 8 pieces'
],
category: 'Japanese',
prepTime: '30 minutes',
cookTime: '20 minutes',
servings: 4
},
{
id: 6,
title: 'Thai Green Curry',
image: 'https://images.unsplash.com/photo-1455619452474-d2be8b1e70cd',
ingredients: [
'Coconut milk - 2 cans',
'Green curry paste - 4 tablespoons',
'Chicken breast - 1 pound, sliced',
'Thai eggplants - 4, quartered',
'Bamboo shoots - 1 cup',
'Thai basil - 1 cup',
'Fish sauce - 2 tablespoons',
'Palm sugar - 1 tablespoon'
]
```

],
instructions: [
'Simmer coconut milk until oil separates',
'Stir in curry paste and cook until fragrant',
'Add chicken and cook until nearly done',
'Add vegetables and remaining coconut milk',
'Season with fish sauce and palm sugar',
'Garnish with Thai basil'
],
category: 'Thai',
prepTime: '20 minutes',
cookTime: '25 minutes',
servings: 4

```
{  
  id: 8,  
  title: 'Chocolate Chip Cookies',  
  image: 'https://images.unsplash.com/photo-1499636136210-6f4ee915583e',  
  ingredients: [  
    'All-purpose flour - 2½ cups',  
    'Butter - 1 cup, softened',  
    'Brown sugar - ¾ cup',  
    'White sugar - ¾ cup',  
    'Large eggs - 2',  
    'Vanilla extract - 1 teaspoon',  
    'Baking soda - 1 teaspoon',  
    'Salt - ½ teaspoon',  
    'Chocolate chips - 2 cups'  
,  
  instructions: [  
    'Preheat oven to 375°F (190°C)',  
    'Cream together butter and sugars until smooth',  
    'Beat in eggs and vanilla',  
    'Mix in flour, baking soda, and salt',  
    'Stir in chocolate chips',  
    'Drop rounded tablespoons onto ungreased baking sheets',  
    'Bake for 10-12 minutes until edges are lightly browned'  
,  
  category: 'Dessert',  
  prepTime: '20 minutes',  
  cookTime: '12 minutes',  
  servings: 24  
,  
{  
  id: 9,  
  title: 'Greek Salad',  
  image: 'https://images.unsplash.com/photo-1540189549336-e6e99c3679fe',  
  ingredients: [  
    'Cucumber - 1 large, chunked',  
    'Cherry tomatoes - 2 cups, halved',  
    'Red onion - 1 medium, sliced',  
    'Green bell pepper - 1, chunked',  
    'Kalamata olives - 1 cup',  
    'Feta cheese - 200g, cubed',  
    'Extra virgin olive oil - ¼ cup',  
    'Red wine vinegar - 2 tablespoons',  
    'Dried oregano - 1 teaspoon',  
    'Salt and pepper - to taste'  
]
```

```
],
instructions: [
  'Combine cucumber, tomatoes, onion, and pepper in a large bowl',
  'Add olives and feta cheese',
  'Whisk together olive oil, vinegar, and oregano',
  'Pour dressing over salad',
  'Season with salt and pepper',
  'Toss gently and serve immediately'
],
category: 'Mediterranean',
prepTime: '15 minutes',
cookTime: '0 minutes',
servings: 4
}
]
```

App.jsx

```
import { useState } from 'react'
import { recipesData } from './data/recipes'
import './App.css'

function App() {
  const [recipes, setRecipes] = useState(recipesData)
  const [selectedRecipe, setSelectedRecipe] = useState(null)
  const [searchTerm, setSearchTerm] = useState("")

  const handleRecipeClick = (recipe) => {
    setSelectedRecipe(recipe)
  }

  const handleClose = () => {
    setSelectedRecipe(null)
  }

  const handleSearch = (event) => {
    const term = event.target.value.toLowerCase()
    setSearchTerm(term)

    if (term === "") {
      setRecipes(recipesData)
    } else {
      const filteredRecipes = recipesData.filter(recipe =>
        recipe.title.toLowerCase().includes(term) ||
      )
    }
  }
}

export default App
```

```
        recipe.category.toLowerCase().includes(term) ||  
        recipe.ingredients.some(ingredient =>  
            ingredient.toLowerCase().includes(term)  
        )  
    )  
    setRecipes(filteredRecipes)  
}  
}  
  
return (  
    <div className="app">  
        <h1>My Recipe Book</h1>  
  
        <div className="search-container">  
            <input  
                type="text"  
                placeholder="Search recipes by name, category or ingredients..."  
                value={searchTerm}  
                onChange={handleSearch}  
                className="search-input"  
            />  
        </div>  
  
        <div className="recipes-container">  
            {recipes.map(recipe => (  
                <div  
                    key={recipe.id}  
                    className="recipe-card"  
                    onClick={() => handleRecipeClick(recipe)}  
                >  
                    <div className="recipe-image">  
                        <img src={recipe.image} alt={recipe.title} />  
                    </div>  
                    <div className="recipe-card-content">  
                        <h2>{recipe.title}</h2>  
                        <div className="recipe-meta">  
                            <span>{recipe.category}</span>  
                            <span>⌚ {recipe.prepTime}</span>  
                            <span>👤 {recipe.servings} servings</span>  
                        </div>  
                    </div>  
                </div>  
            ))}  
        </div>  
    </div>
```

```
{selectedRecipe && (
  <div className="recipe-modal-overlay" onClick={handleClose}>
    <div className="recipe-modal" onClick={e => e.stopPropagation()}>
      <button className="close-button" onClick={handleClose}>&times;</button>
      <div className="recipe-detail">
        <div className="recipe-detail-image">
          <img src={selectedRecipe.image} alt={selectedRecipe.title} />
        </div>
        <h2>{selectedRecipe.title}</h2>
        <div className="recipe-meta">
          <span>Category: {selectedRecipe.category}</span>
          <span>Prep: {selectedRecipe.prepTime}</span>
          <span>Cook: {selectedRecipe.cookTime}</span>
          <span>Servings: {selectedRecipe.servings}</span>
        </div>
        <div className="recipe-content">
          <div className="ingredients">
            <h3>Ingredients</h3>
            <ul>
              {selectedRecipe.ingredients.map((ingredient, index) => (
                <li key={index}>{ingredient}</li>
              )))
            </ul>
          </div>
          <div className="instructions">
            <h3>Instructions</h3>
            <ol>
              {selectedRecipe.instructions.map((step, index) => (
                <li key={index}>{step}</li>
              )))
            </ol>
          </div>
        </div>
      </div>
    </div>
  )
}
```

```
export default App
```

