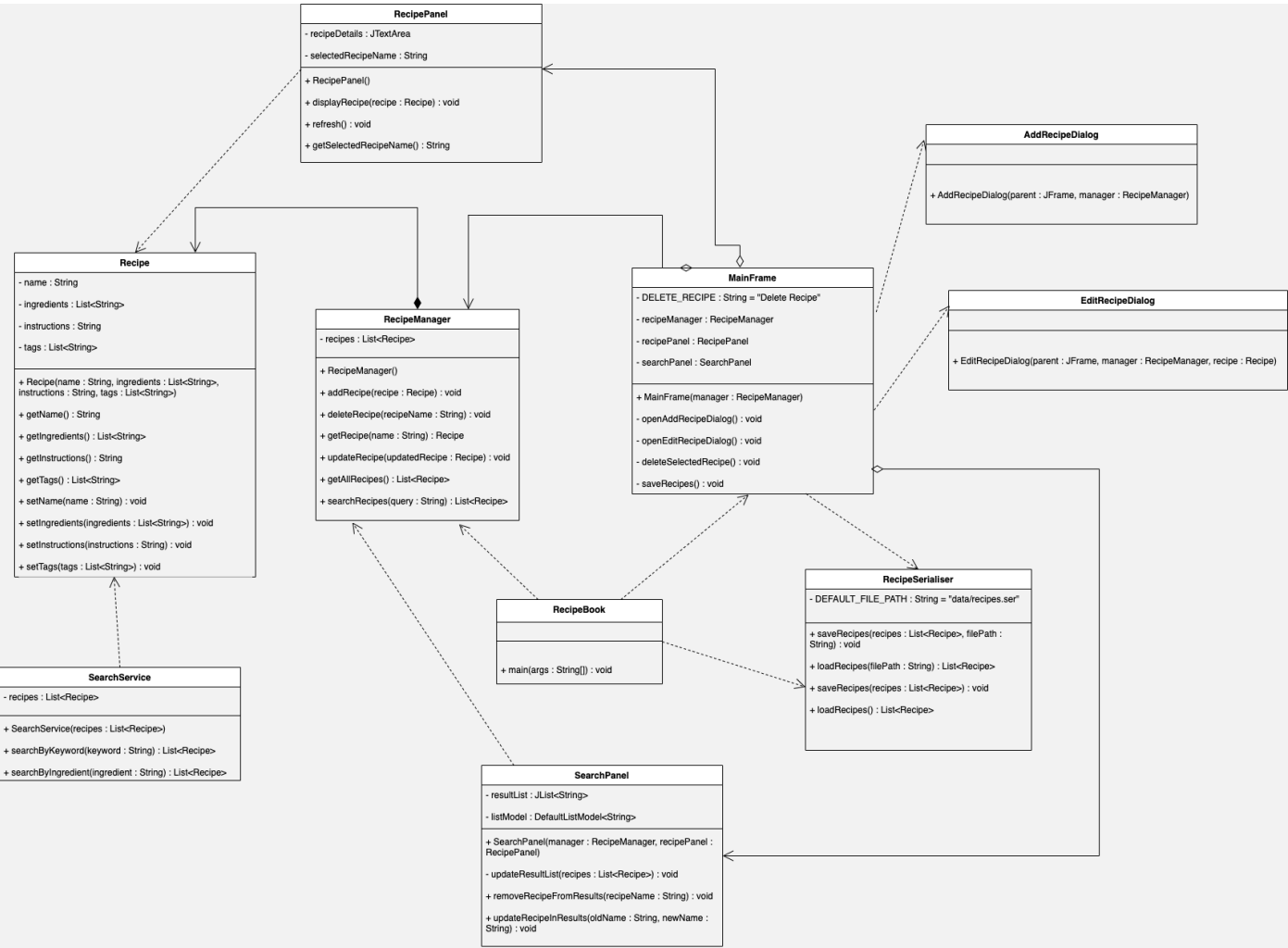


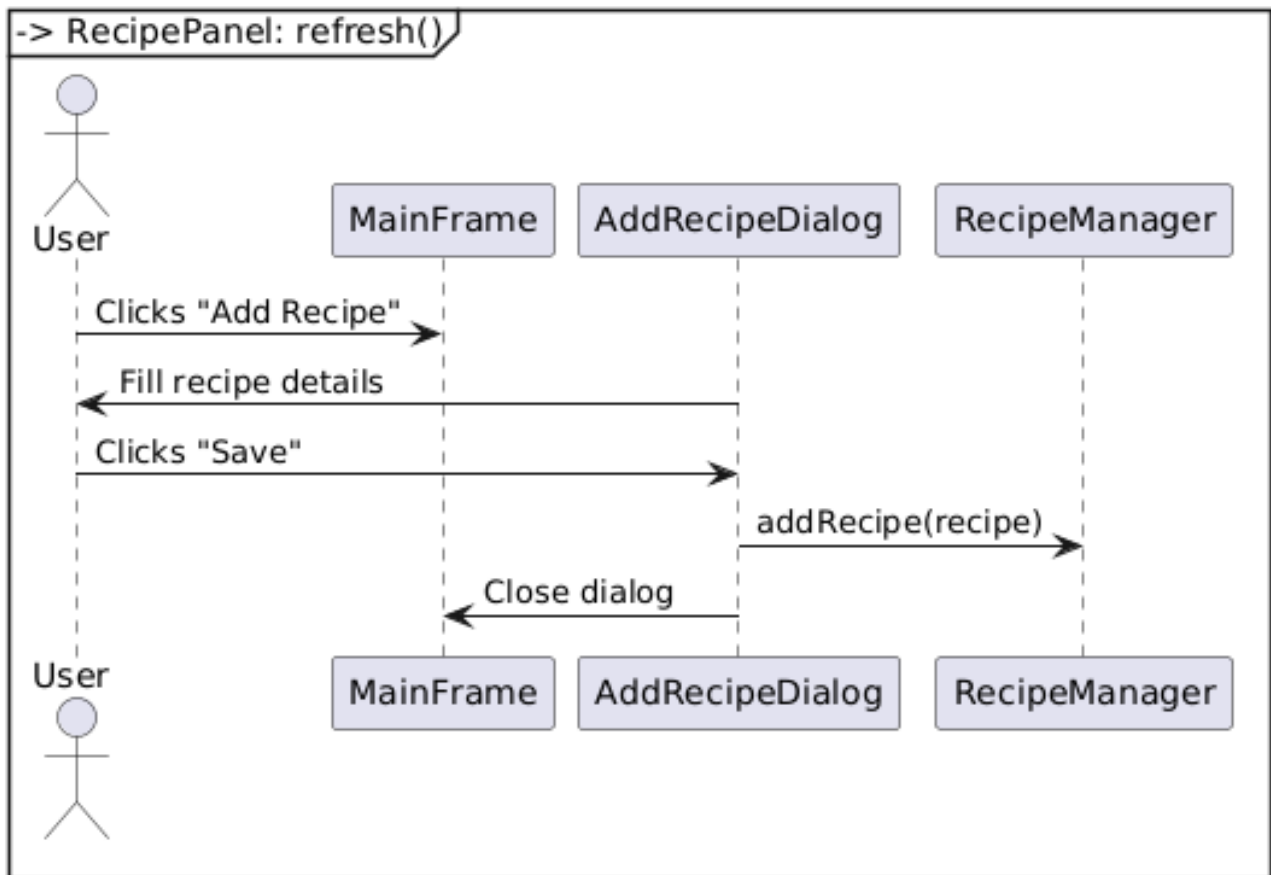
**Extended
Documentation
for
Programming 3
Homework
Project
Tamas Tottszer
(KCP1K1)**

Class Diagram

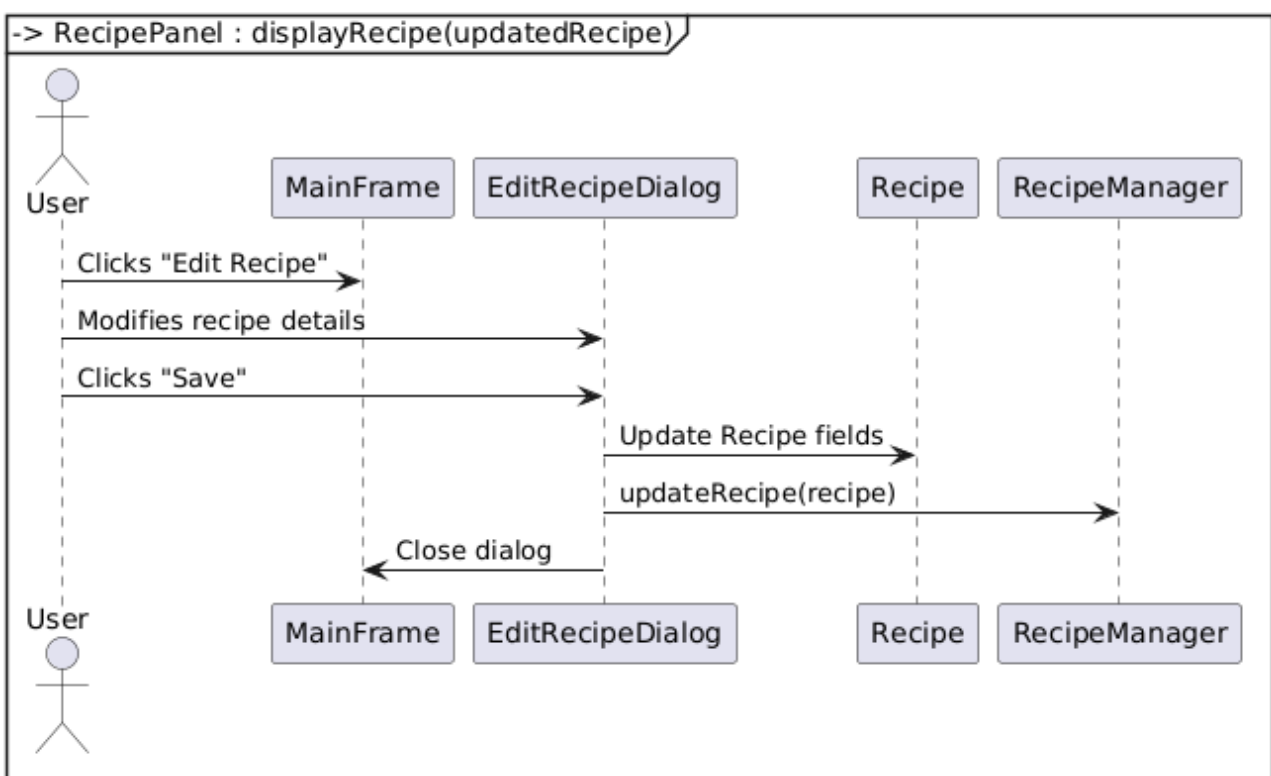


Sequence Diagrams

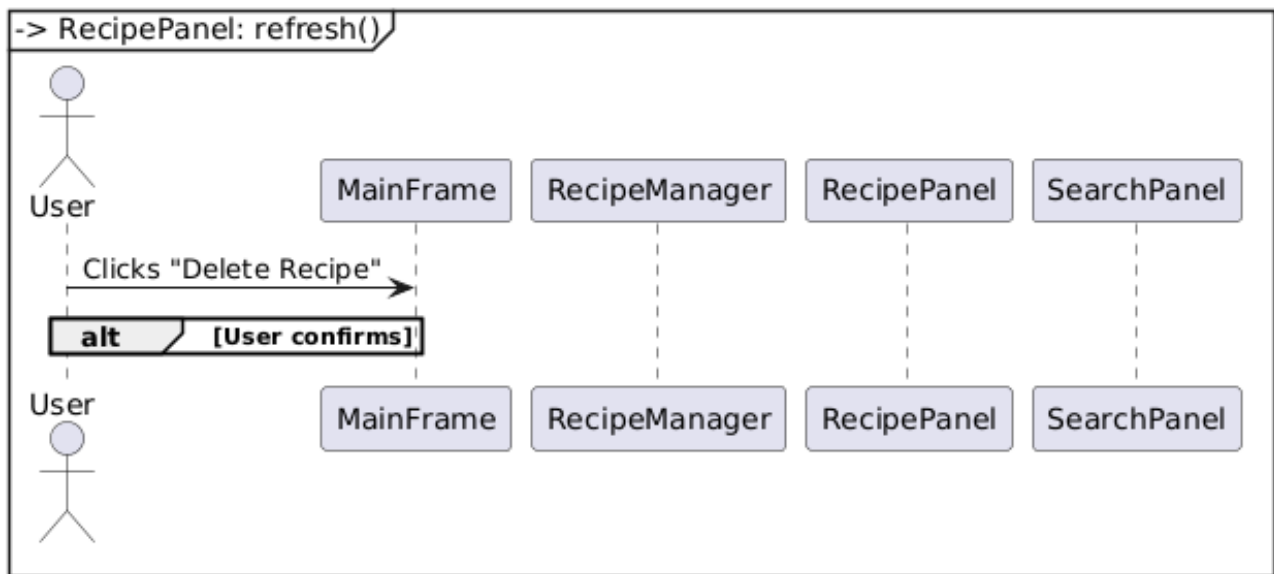
Add a Recipe:



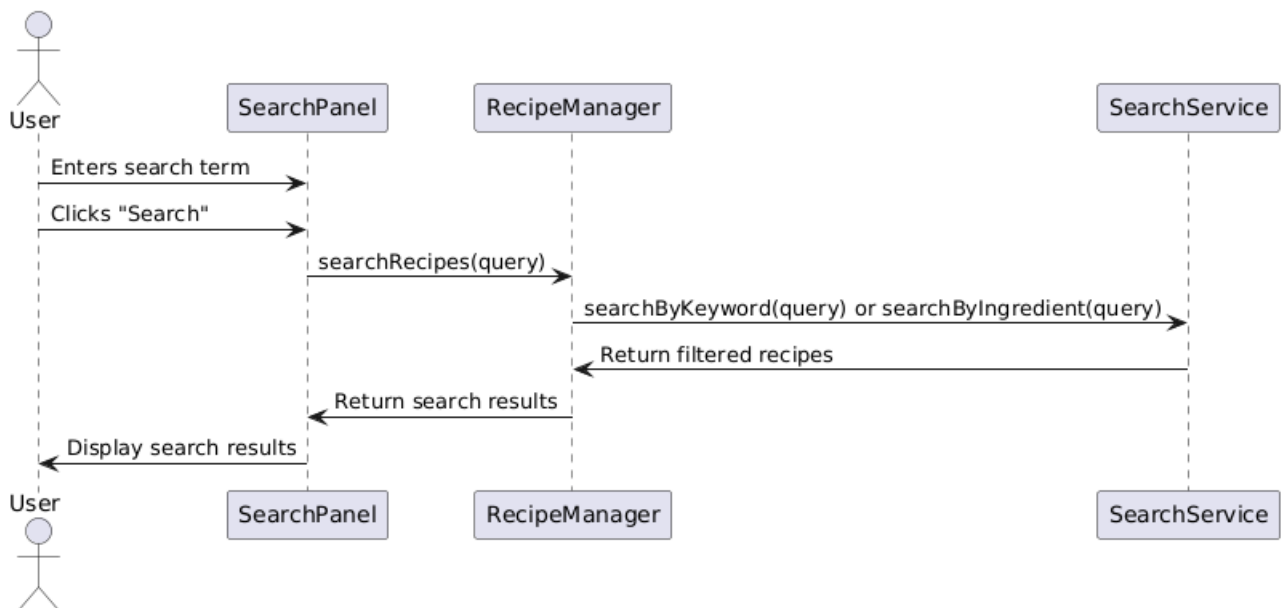
Edit a Recipe:



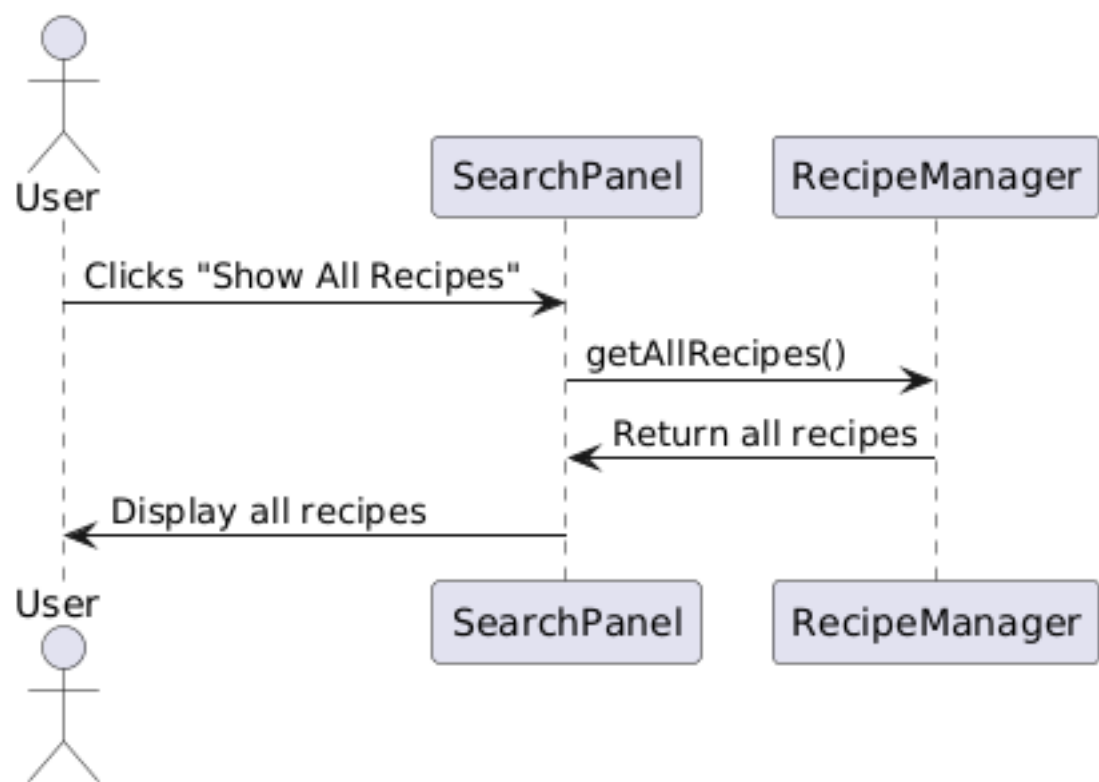
Delete a Recipe:



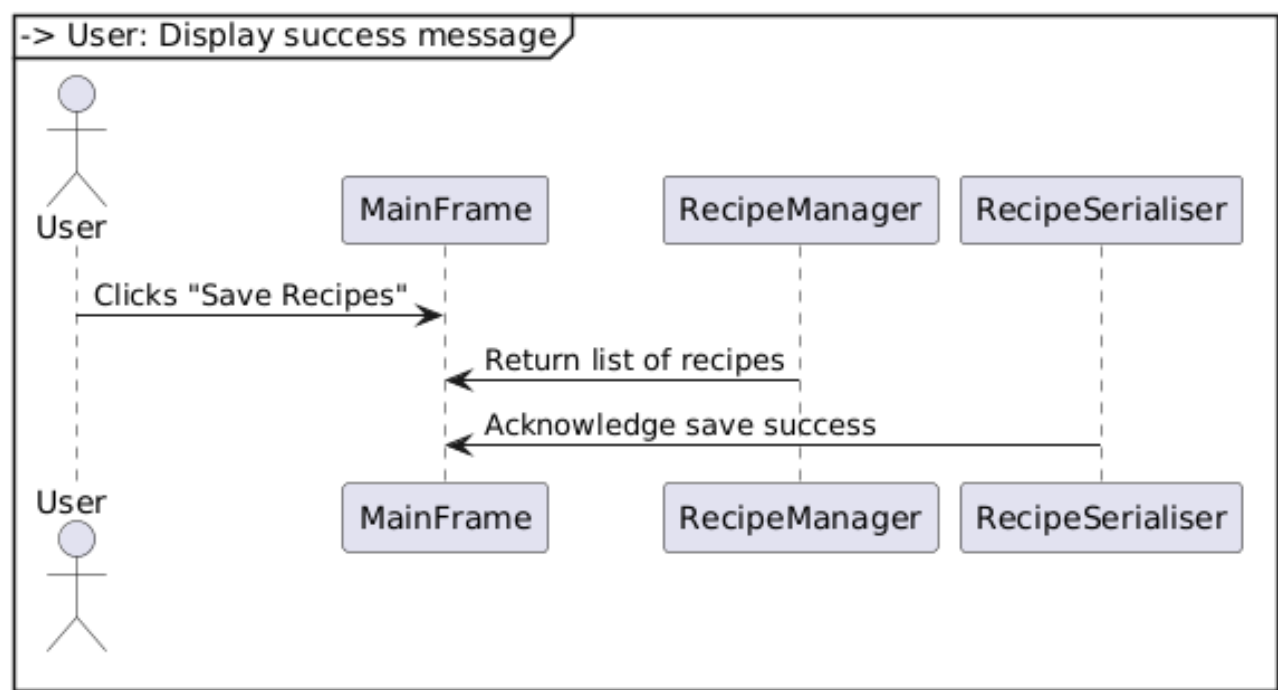
Search Recipes by Keyword or Ingredient:



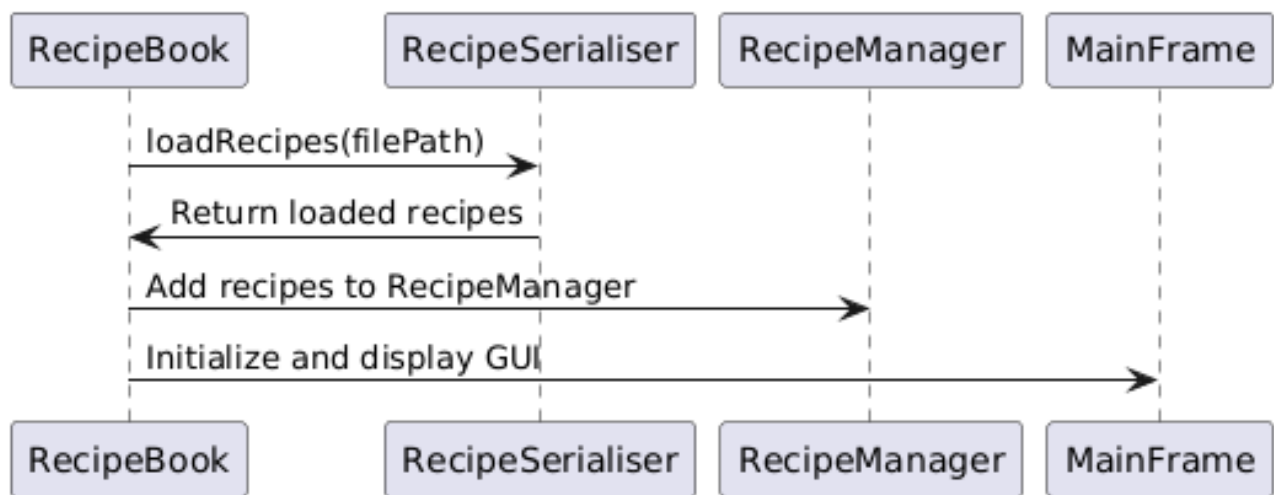
View All Recipes:



Save Recipes:



Load Recipes on Application Start:



Unit Tests Description

Recipe Manager Test:

The `RecipeManagerTest` class verifies the core recipe management operations. The `testAddRecipe` ensures that recipes are successfully added to the manager, validating that the recipe list updates correctly and that the recipe's data is stored accurately. The `testDeleteRecipe` confirms that recipes can be deleted by their names, ensuring the recipe list size decreases appropriately. The `testGetRecipe` validates that recipes can be retrieved by name, ensuring the retrieved recipe matches the expected one. The `testUpdateRecipe` ensures that existing recipes can be updated, replacing their ingredients, instructions, and tags correctly. The `testGetAllRecipes` validates that all stored recipes can be retrieved as a list, verifying the size and order of the returned list. Finally, the `testSearchRecipes` checks the search functionality by validating that recipes containing specific keywords in their name, tags, or ingredients are correctly returned.

RecipeSerialiserTest:

The `RecipeSerialiserTest` class focuses on the save and load functionalities for recipes. The `testSaveAndLoadRecipes` ensures that a list of recipes can be serialised to a file and then deserialised, confirming data integrity through the process. The `testLoadFromNonExistentFile` validates that attempting to load recipes from a non-existent file returns an empty list without causing errors. The `testSaveAndLoadEmptyList` ensures that saving and loading an empty list of recipes works correctly without issues. Finally, the `testDefaultFilePath` verifies the functionality of the default file path by ensuring recipes are saved and loaded correctly using it.

SearchServiceTest:

The `SearchServiceTest` class validates the search functionalities for recipes, both by keyword and ingredient. The `testSearchByKeyword` uses parameterised testing to ensure that the search accurately retrieves recipes based on a keyword found in their name or tags. This test covers edge cases, such as searching for a non-existent keyword or using an empty string. Examples include successfully finding "Pasta" when searching for "Pasta" or finding no results when searching for "Pizza." Similarly, the `testSearchByIngredient` ensures that recipes containing specific ingredients are correctly returned. This test also uses parameterised testing to verify cases like matching "Tomato" with "Pasta" and "Salad," handling ingredients with no matches like "Cheese," and properly managing empty searches.