

## Testing procedure

To complete testing for my application, I designed my tests to go from one to the next – ie I tested the add recipe function, then tested the function that required retrieving recipes from the database, and then finally exporting recipes to PDF. I created a spreadsheet to track what I was testing, expected outcomes and actual outcomes.

### Test 1 – Add and view recipes

First, I tested the add recipe function. I wanted to set this up so I would be able to test all other features after. I also wanted to test edge cases, exit functions and invalid inputs.

- I added 5 recipes (one to each category). I made sure to These all shared 1 common ingredient to utilise the search function later on.
- I tested the “exit” function at random for each input (name, ingredients, method)
- I tested the input validation which stops users from entering nothing
- I tested the function that stops a user from entering a recipe name already in the DB
- I then viewed each recipe I had added

### Added recipes

```

Welcome to Your Recipe Book! 🍴 🌈 🍷

? Please select an option from the menu: + Add a new recipe
? Select a category or 'Exit' to cancel Breakfast
? Enter the recipe name or 'exit' to cancel: Spinach and feta omelette
? Enter the ingredients separated by commas: 2 eggs, 1/4 cup spinach, 2 tbsp crumbled feta cheese, salt and pepper, 1tbsp olive oil
? Enter the method: In a bowl, beat the eggs and season with salt and pepper. Heat olive oil in a non-stick pan over medium heat. Add chopped spinach to the pan and sauté until wilted. Pour the beaten eggs over the spinach. Once the edges start to set, sprinkle feta cheese over one half of the omelette. Carefully fold the other half over the cheese and let it cook until the eggs are fully set.

? Please select an option from the menu: + Add a new recipe
? Select a category or 'Exit' to cancel Lunch
? Enter the recipe name or 'exit' to cancel: Avocado and Egg Salad Wrap
? Enter the ingredients separated by commas: 2 hard-boiled eggs, 1 avocado, 2tbsp mayonnaise, salt and pepper, 4 tortillas, lettuce leaves for wrapping
? Enter the method: In a bowl, mix chopped hard-boiled eggs, mashed avocado, mayonnaise, salt, and pepper. Lay out the tortillas and place lettuce leaves on each. Spoon the egg and avocado mixture onto the tortillas. Wrap each tortilla, enclosing the filling, and secure with toothpicks if needed.

? Please select an option from the menu: + Add a new recipe
? Select a category or 'Exit' to cancel Dinner
? Enter the recipe name or 'exit' to cancel: Spaghetti Carbonara
? Enter the ingredients separated by commas: 400g spaghetti, 2tbsp olive oil, 200g bacon, 3 cloves garlic, 3 large eggs, 1 cup parmesan cheese (grated), salt & pepper, fresh parsley for garnish
? Enter the method: Cook spaghetti according to package instructions. In a skillet, heat olive oil over medium heat, add pancetta or bacon, and cook until crispy. In a bowl, whisk together eggs, Parmesan cheese, salt, and black pepper. Drain cooked spaghetti and toss it in the skillet with the pancetta. Remove from heat and quickly stir in the egg and cheese mixture until well combined. Garnish with chopped fresh parsley before serving.

? Please select an option from the menu: + Add a new recipe
? Select a category or 'Exit' to cancel Snacks
? Enter the recipe name or 'exit' to cancel: Deviled Eggs
? Enter the ingredients separated by commas: 6 hardboiled eggs (peeled), 3tbsp mayo, 1 tsp Dijon, salt and pepper, paprika for garnish
? Enter the method: Remove the yolks from the hard-boiled eggs and place them in a bowl. Mash the yolks and mix in mayonnaise, Dijon mustard, salt, and pepper. Spoon or pipe the yolk mixture back into the egg whites. Sprinkle with paprika for garnish.

? Please select an option from the menu: + Add a new recipe
? Select a category or 'Exit' to cancel Dessert
? Enter the recipe name or 'exit' to cancel: Vanilla Custard
? Enter the ingredients separated by commas: 4 egg yolks, 1/2 cup sugar, 2 cups milk, 1tsp vanilla extract, pinch of salt
? Enter the method: In a bowl, whisk together egg yolks and sugar until well combined. In a saucepan, heat milk over medium heat until it just starts to simmer. Gradually whisk the hot milk into the egg yolk mixture. Pour the mixture back into the saucepan and cook over low heat, stirring constantly, until it thickens. Remove from heat, stir in vanilla extract and a pinch of salt. Allow the custard to cool, then refrigerate until chilled before serving.
```

## Testing exits, recipe name duplicates and invalid inputs

```
Recipe add canceled. Oh, the culinary world will surely mourn the loss of this masterpiece.
? Please select an option from the menu: 1|
  1) + Add a new recipe
  2) 📄 Modify a recipe
  3) ✖ Delete a recipe
  4) 😊 View your current recipes
  5) 🔍 Search for a recipe
  6) 📄 Export to PDF
  7) Exit
```

```
? Please select an option from the menu: + Add a new recipe
? Select a category or 'Exit' to cancel: Lunch
? Enter the recipe name or 'exit' to cancel: |
```

```
Did you just try to add a recipe of nothing? Spice it up with some text, chef!
```

```
Nope. 'Vanilla custard' already exists. Try again (or not).
? Enter the recipe name or 'exit' to cancel: |
```

## View Recipes

```
Recipe Details:
Name: Spinach and feta omelette
Ingredients: ['2 eggs', ' 1/4 cup spinach', ' 2 tbsp crumbled feta cheese', ' salt and pepper', ' 1tbsp olive oil']
Method: In a bowl, beat the eggs and season with salt and pepper. Heat olive oil in a non-stick pan over medium heat. Add chopped spinach to the pan and sauté until wilted. Pour the beaten eggs over the spinach. Once the edges start to set, sprinkle feta cheese over one half of the omelette. Carefully fold the other half over the cheese and let it cook until the eggs are fully set.
? Please select an option from the menu: 1|
  1) + Add a new recipe
  2) 📄 Modify a recipe
  3) ✖ Delete a recipe
  4) 😊 View your current recipes
  5) 🔍 Search for a recipe
  6) 📄 Export to PDF
  7) Exit
```

```
Name: Avocado and Egg Salad Wrap
Ingredients: ['2 hard-boiled eggs', ' 1 avocado', ' 2tbsp mayonnaise', ' salt and pepper', ' 4 tortillas', ' lettuce leaves for wrapping']
Method: In a bowl, mix chopped hard-boiled eggs, mashed avocado, mayonnaise, salt, and pepper. Lay out the tortillas and place lettuce leaves on each. Spoon the egg and avocado mixture onto the tortillas. Wrap each tortilla, enclosing the filling, and secure with toothpicks if needed.
? Please select an option from the menu: 1|
  1) + Add a new recipe
  2) 📄 Modify a recipe
  3) ✖ Delete a recipe
  4) 😊 View your current recipes
  5) 🔍 Search for a recipe
  6) 📄 Export to PDF
  7) Exit
```

```
Recipe Details:
Name: Spaghetti Carbonara
Ingredients: ['400g spaghetti', ' 2tbsp olive oil', ' 200g bacon', ' 3 cloves garlic', ' 3 large eggs', ' 1 cup parmesan cheese (grated)', ' salt & pepper', ' fresh parsley for garnish']
Method: Cook spaghetti according to package instructions. In a skillet, heat olive oil over medium heat, add pancetta or bacon, and cook until crispy. In a bowl, whisk together eggs, Parmesan cheese, salt, and black pepper. Drain cooked spaghetti and toss it in the skillet with the pancetta. Remove from heat and quickly stir in the egg and cheese mixture until well combined. Garnish with chopped fresh parsley before serving.
? Please select an option from the menu: 1
? Please select an option from the menu: 1|
  1) + Add a new recipe
  2) 📄 Modify a recipe
  3) ✖ Delete a recipe
  4) 😊 View your current recipes
  5) 🔍 Search for a recipe
  6) 📄 Export to PDF
  7) Exit
```

```

Recipe Details:
Name: Deviled Eggs
Ingredients: ['6 hardboiled eggs (peeled)', ' 3tbsp mayo', ' 1 tsp Dijon', ' salt and pepper', ' paprika for garnish']
Method: Remove the yolks from the hard-boiled eggs and place them in a bowl. Mash the yolks and mix in mayonnaise, Dijon mustard, salt, and pepper. Spoon or pipe the yolk mixture back into the egg whites. Sprinkle with paprika for garnish.
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😊 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit

```

```

Recipe Details:
Name: Vanilla Custard
Ingredients: ['4 egg yolks', ' 1/2 cup sugar', ' 2 cups milk', ' 1tsp vanilla extract', ' pinch of salt']
Method: In a bowl, whisk together egg yolks and sugar until well combined. In a saucepan, heat milk over medium heat until it just starts to simmer. Gradually whisk the hot milk into the egg yolk mixture. Pour the mixture back into the saucepan and cook over low heat, stirring constantly, until it thickens. Remove from heat, stir in vanilla extract and a pinch of salt. Allow the custard to cool, then refrigerate until chilled before serving.
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😊 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit

```

## Test 2 – Modify and delete functions

This test was to ensure I could successfully modify/ remove recipes in the database without any errors. I wanted to make sure with the modify function, selected items to be modified were overwritten and I wanted to make sure deleted items were deleted.

- I selected 3 of the recipes I had added and edited one name, one ingredient list, and one method.
- I then viewed the recipes to make sure the changes were there
- I chose a recipe to delete, then went back to the category I had deleted it from to test the “empty category” error handler
- I also tested the confirm function which asks if you want to modify/delete the selected recipe before continuing

## Edited breakfast recipe name

```

? Please select an option from the menu: 📄 Modify a recipe
? Select a category or 'Exit' to cancel Breakfast
? Select a recipe: Spinach and feta ommelette

Recipe Details:
Name: Spinach and feta ommelette
Ingredients: ['2 eggs', ' 1/4 cup spinach', ' 2 tbsp crumbled feta cheese', ' salt and pepper', ' 1tbsp olive oil']
Method: In a bowl, beat the eggs and season with salt and pepper. Heat olive oil in a non-stick pan over medium heat. Add chopped spinach to the pan and sauté until wilted. Pour the beaten eggs over the spinach. Once the edges start to set, sprinkle feta cheese over one half of the omelette. Carefully fold the other half over the cheese and let it cook until the eggs are fully set.
? Are you sure you want to modify this recipe? Yes
? Select the item to modify: |
> Name
  Ingredients
  Method

```

```

Boom! Recipe updated. 💕💕
? Please select an option from the menu: 😊 View your current recipes
? Select a category or 'Exit' to cancel Breakfast
? Select a recipe: |
> Feta and spinach ommelette

```

## Edited lunch ingredients

```
Recipe Details:
Name: Avocado and Egg Salad Wrap
Ingredients: ['2 hard-boiled eggs', ' 1 avocado', ' 2tbsp mayonnaise', ' salt and pepper', ' 4 tortillas', ' lettuce leaves for wrapping']
Method: In a bowl, mix chopped hard-boiled eggs, mashed avocado, mayonnaise, salt, and pepper. Lay out the tortillas and place lettuce leaves on each. Spoon the egg and avocado mixture onto the tortillas. Wrap each tortilla, enclosing the filling, and secure with toothpicks if needed.
? Are you sure you want to modify this recipe? Yes
? Select the item to modify: Ingredients
? Enter the new ingredients: 2 peeled hardboiled eggs, 1 ripe avocado, mayo, salt & pepper, 4 wraps, lettuce leaves
```

```
Recipe Details:
Name: Avocado and Egg Salad Wrap
Ingredients: 2 peeled hardboiled eggs, 1 ripe avocado, mayo, salt & pepper, 4 wraps, lettuce leaves
Method: In a bowl, mix chopped hard-boiled eggs, mashed avocado, mayonnaise, salt, and pepper. Lay out the tortillas and place lettuce leaves on each. Spoon the egg and avocado mixture onto the tortillas. Wrap each tortilla, enclosing the filling, and secure with toothpicks if needed.
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😊 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit
```

## Edited snack method

```
? Please select an option from the menu: 📄 Modify a recipe
? Select a category or 'Exit' to cancel Snacks
? Select a recipe: Deviled Eggs

Recipe Details:
Name: Deviled Eggs
Ingredients: ['6 hardboiled eggs (peeled)', ' 3tbsp mayo', ' 1 tsp Dijon', ' salt and pepper', ' paprika for garnish']
Method: Remove the yolks from the hard-boiled eggs and place them in a bowl. Mash the yolks and mix in mayonnaise, Dijon mustard, salt, and pepper. Spoon or pipe the yolk mixture back into the egg whites. Sprinkle with paprika for garnish.
? Are you sure you want to modify this recipe? Yes
? Select the item to modify: Method
? Enter the new method: Go to the shop and buy them, this is too much effort for a snack.
```

```
Recipe Details:
Name: Deviled Eggs
Ingredients: ['6 hardboiled eggs (peeled)', ' 3tbsp mayo', ' 1 tsp Dijon', ' salt and pepper', ' paprika for garnish']
Method: Go to the shop and buy them, this is too much effort for a snack.
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😊 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit
```

## Modify recipe canceled

```
Recipe modify canceled. I too fear change.
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😊 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit
```

## Delete recipe canceled

```
Recipe delete canceled. Your recipe has been spared (for now)
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😊 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit
```

### Recipe delete confirmed

```
Feta and spinach omelette has been deleted. It's now off to the recipe retirement home in the cloud.
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😊 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit
```

```
Oops, the Breakfast category is as empty as my fridge.
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😊 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit
```

### Test 3 – Search function

To test this feature, I wanted to make sure I could return recipes with common ingredients or search recipes by name. I also wanted to make sure it could handle empty inputs and 0 search results.

- I searched “egg” twice, in upper and lowercase, and checked the recipes returned were in alphabetical order
- I searched for “glass” which I knew wasn’t in my recipe list
- I completed an empty search
- I completed a search for a symbol

### Egg searches

```
? Please select an option from the menu: 🔍 Search for a recipe
? Enter a recipe name or ingredient to search or type 'exit' to cancel: egg
? Select a recipe from the search results (search term: egg): |
> Avocado and Egg Salad Wrap
Deviled Eggs
Spaghetti Carbonara
Vanilla Custard
```

```
? Please select an option from the menu: 🔍 Search for a recipe
? Enter a recipe name or ingredient to search or type 'exit' to cancel: Egg
? Select a recipe from the search results (search term: egg): |
> Avocado and Egg Salad Wrap
  Deviled Eggs
  Spaghetti Carbonara
  Vanilla Custard
```

### Input error handling

```
Uhh no recipes with glass here. Have you added any yet? Awkward.
? Enter a recipe name or ingredient to search or type 'exit' to cancel: |
```

```
? Please select an option from the menu: 🔍 Search for a recipe
? Enter a recipe name or ingredient to search or type 'exit' to cancel: |
```

```
Searching for the recipe to make air today, are we?
```

```
? Enter a recipe name or ingredient to search or type 'exit' to cancel: &
? Select a recipe from the search results (search term: &): |
> Avocado and Egg Salad Wrap
  Spaghetti Carbonara
```

```
Uhh no recipes with # here. Have you added any yet? Awkward.
? Enter a recipe name or ingredient to search or type 'exit' to cancel: |
```

### Exit

```
Recipe search canceled. Winging it today, are we?
? Please select an option from the menu: 1|
1) + Add a new recipe
2) 📄 Modify a recipe
3) ✖ Delete a recipe
4) 😬 View your current recipes
5) 🔍 Search for a recipe
6) 📄 Export to PDF
7) Exit
```

### Test 4 – Export to PDF

This one was simple – I just wanted to export all 4 recipes and not have anything weird crop up. When I initially completed testing I did receive a Unicode error – I added back the same recipe that caused this issue to test the error handler also. This was from a recipe I copy-pasted from a website.

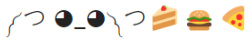
While I can implement Unicode with FPDF (there are instructions in their docs)! I wanted to demonstrate I could handle an error without it crashing my app.

### Confirmation message

```
Your recipe has achieved its lifelong dream of becoming a PDF. It's all grown up now and ready for the outside world.  
? Please select an option from the menu: 1|  
1) + Add a new recipe  
2) 📄 Modify a recipe  
3) ✖ Delete a recipe  
4) 🍽 View your current recipes  
5) 🔍 Search for a recipe  
6) 📄 Export to PDF  
7) Exit
```

## Unicode error handler

```
? Please select an option from the menu: 📄 Export to PDF  
? Select a category or 'Exit' to cancel Lunch  
? Select a recipe: Miso Noodle Soup in a Jar  
Error exporting recipe to PDF. Please remove any special characters and try again.  
Error details: 'latin-1' codec can't encode character '\u201c' in position 880: ordinal not in range(256)  
? Please select an option from the menu: 1|  
1) + Add a new recipe  
2) 📄 Modify a recipe  
3) ✖ Delete a recipe  
4) 🍽 View your current recipes  
5) 🔍 Search for a recipe  
6) 📄 Export to PDF  
7) Exit
```



## Your Recipe

### Avocado and Egg Salad Wrap

Ingredients: 2 hardboiled eggs, 1 avocado, 2 tbsp mayo, salt and pepper, 4 wraps, lettuce leaves

Method: In a bowl, mix chopped hard-boiled eggs, mashed avocado, mayonnaise, salt, and pepper.

Lay out the tortillas and place lettuce leaves on each. Spoon the egg and avocado mixture onto the tortillas. Wrap each tortilla, enclosing the filling, and secure with toothpicks if needed.



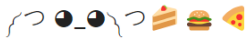


## Your Recipe

### Spaghetti Carbonara

Ingredients: 400g spaghetti, 2tbsp olive oil, 200g bacon, 3 cloves garlic, 3 large eggs, 1 cup parmesan cheese (grated), salt & pepper, fresh parsley for garnish

Method: Cook spaghetti according to package instructions. In a skillet, heat olive oil over medium heat, add pancetta or bacon, and cook until crispy. In a bowl, whisk together eggs, Parmesan cheese, salt, and black pepper. Drain cooked spaghetti and toss it in the skillet with the pancetta. Remove from heat and quickly stir in the egg and cheese mixture until well combined. Garnish with chopped fresh parsley before serving.

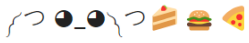


## Your Recipe

### Deviled Eggs

Ingredients: 6 hardboiled eggs (peeled), 3tbsp mayo, 1 tsp Dijon, salt and pepper, paprika for garnish

Method: Go to the shop and buy them, this is too much effort for a snack.



## Your Recipe

### Vanilla Custard

Ingredients: 4 egg yolks, 1/2 cup sugar, 2 cups milk, 1tsp vanilla extract, pinch of salt

Method: In a bowl, whisk together egg yolks and sugar until well combined. In a saucepan, heat milk over medium heat until it just starts to simmer. Gradually whisk the hot milk into the egg yolk mixture. Pour the mixture back into the saucepan and cook over low heat, stirring constantly, until it thickens. Remove from heat, stir in vanilla extract and a pinch of salt. Allow the custard to cool, then refrigerate until chilled before serving.