**ASSESSMENT TWO TESTING**

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# **UNIT TESTING**

## Ingredient Class

ING\_TC1 - Testing the 'setName' setter in the Ingredient class with null data

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Expected Result: An exception will be thrown and caught, informing that the name is invalid

Actual Result:

ERROR: Name field entered incorrectly

Ingredient name: null

++++++++++++++++ ING\_TC1 ++++++++++++++++

ING\_TC2 - Testing the 'setName' setter in the Ingredient class when name = ' '

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the name is invalid

Actual Result:

Ingredient name:

++++++++++++++++ ING\_TC2 ++++++++++++++++

ING\_TC3 - Testing the 'setName' setter in the Ingredient class when name = 'Oranges'

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Expected Result: The Ingredient name will be set to 'Oranges'

Actual Result:

Ingredient name: Oranges

++++++++++++++++ ING\_TC3 ++++++++++++++++

ING\_TC4 - Testing the 'setFoodGroup' setter in the Ingredient class

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Expected Result: The foodType will be set to whatever food group is input

Actual Result:

Ingredient food type: Dairy Products - 'Milk', 'Cheese'

++++++++++++++++ ING\_TC4 ++++++++++++++++

ING\_TC5 - Testing the 'setCalories' setter in the Ingredient class with null data

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

java.lang.NullPointerException: Cannot invoke "String.length()" because "str" is null

Calories: null

++++++++++++++++ ING\_TC5 ++++++++++++++++

ING\_TC6 - Testing the 'setCalories' setter in the Ingredient class when calories = ' '

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Calorie field entered incorrectly

Calories: null

++++++++++++++++ ING\_TC6 ++++++++++++++++

ING\_TC7 - Testing the 'setCalories' setter in the Ingredient class when calories = '-3'

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Calorie field entered incorrectly

Calories: null

++++++++++++++++ ING\_TC7 ++++++++++++++++

ING\_TC8 - Testing the 'setCalories' setter in the Ingredient class when calories = '33'

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Expected Result: The calories will be set to 33

Actual Result:

Calories: 33

++++++++++++++++ ING\_TC8 ++++++++++++++++

ING\_TC9/10 - Testing construction of Ingredient class with valid parameters'

++++++++++++++++++++++++++++++++

Expected Result: the object will be instantiated with an ingredient ID of I1

Ingredient ID: I1

Ingredient Name: Oranges

Ingredient Food Group: Fruit and Veg - 'Apples', 'Onions'

Calories per 100g/100ml: 33

Ingredient ID: I1

++++++++++++++++ ING\_TC9/10 ++++++++++++++++

ING\_TC11 - Testing construction of Ingredient class with invalid parameters'

++++++++++++++++++++++++++++++++

Expected Result: the object will not be instantiated

ERROR: Name field entered incorrectly

Ingredient ID: null

Ingredient Name: null

Ingredient Food Group: null

Calories per 100g/100ml: null

++++++++++++++++ ING\_TC11 ++++++++++++++++

### Ingredient class corrective action

ING\_TC2 - Testing the 'setName' setter in the Ingredient class when name = ' '

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the name is invalid

Actual Result:

ERROR: Name field entered incorrectly

Ingredient name: null

++++++++++++++++ ING\_TC2 ++++++++++++++++

ING\_TC5 - Testing the 'setCalories' setter in the Ingredient class with null data

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Calorie field entered incorrectly

Calories: null

++++++++++++++++ ING\_TC5 ++++++++++++++++

## Recipe Ingredient class

RI\_TC1 - Testing the 'setAmount' setter in the RecipeIngredient class with null data

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Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Amount field entered incorrectly

Mass amount: null

++++++++++++++++ RI\_TC1 ++++++++++++++++

RI\_TC2 - Testing the 'setAmount' setter in the RecipeIngredient class when the amount = ' '

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Amount field entered incorrectly

Mass amount: null

++++++++++++++++ RI\_TC2 ++++++++++++++++

RI\_TC3 - Testing the 'setAmount' setter in the RecipeIngredient class when the amount = '-78'

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Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Amount field entered incorrectly

Mass amount: null

++++++++++++++++ RI\_TC3 ++++++++++++++++

RI\_TC4 - Testing the 'setAmount' setter in the RecipeIngredient class when the amount = '78'

++++++++++++++++++++++++++++++++

Expected Result: The massAmount will be set to 78

Actual Result:

Mass amount: 78

++++++++++++++++ RI\_TC4 ++++++++++++++++

RI\_TC5 - Testing the 'setMassDescription' setter in the RecipeIngredient class

++++++++++++++++++++++++++++++++

Expected Result: The massDescription will be set to whatever mass description is selected

Actual Result:

Mass description: grams

++++++++++++++++ RI\_TC5 ++++++++++++++++

RI\_TC6/7 - Testing construction of RecipeIngredient class with valid parameters

++++++++++++++++++++++++++++++++

Expected Result: the object will be instantiated

Actual Result:

Ingredient ID: I1

Ingredient Name: Oranges

Ingredient Food Group: Fruit and Veg - 'Apples', 'Onions'

Calories per 100g/100ml: 33 Mass Amount: 56 , Mass Description: grams , Ingredient Extra Info: Peeled

Recipe ingredient ID: I1

++++++++++++++++ RI\_TC6/7 ++++++++++++++++

RI\_TC8 - Testing construction of RecipeIngredient class with invalid parameters

++++++++++++++++++++++++++++++++

Expected Result: the object will not be instantiated

Actual Result:

ERROR: Amount field entered incorrectly

++++++++++++++++ RI\_TC8 ++++++++++++++++

RI\_TC9 - Testing caloriesPerAmount() method

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Expected Result: the method will return 18

Actual Result:

Result: 1848.0

++++++++++++++++ RI\_TC9 ++++++++++++++++

### Recipe Ingredient Corrective Action

RI\_TC9 - Testing caloriesPerAmount() method

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Expected Result: the method will return 18

Actual Result:

Result: 18.48

++++++++++++++++ RI\_TC9 ++++++++++++++++

# Recipe Class Tests

R\_TC1 - Testing the 'setRecipeName' setter in the Recipe class with null data

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Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Recipe name field entered incorrectly

Recipe name: null

++++++++++++++++ R\_TC1 ++++++++++++++++

R\_TC2 - Testing the 'setRecipeName' setter in the Recipe class when name = ' '

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

Recipe name:

++++++++++++++++ R\_TC2 ++++++++++++++++

R\_TC3 - Testing the 'setRecipeName' setter in the Recipe class when name = 'lasagne'

++++++++++++++++++++++++++++++++

Expected Result: the recipe name will be set to 'lasagne'

Actual Result:

Recipe name: lasagne

++++++++++++++++ R\_TC3 ++++++++++++++++

R\_TC4 - Testing the 'setRecPortionSize' setter in the Recipe class when portionSize is null

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Recipe portion size field entered incorrectly

Recipe name: null

++++++++++++++++ R\_TC4 ++++++++++++++++

R\_TC5 - Testing the 'setRecPortionSize' setter in the Recipe class when portionSize = '-3'

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Recipe portion size field entered incorrectly

Recipe name: null

++++++++++++++++ R\_TC5 ++++++++++++++++

R\_TC6 - Testing the 'setRecPortionSize' setter in the Recipe class when portionSize = '3'

++++++++++++++++++++++++++++++++

Expected Result: The recipe portion size will be set to 3

Actual Result:

Recipe portion size: 3

++++++++++++++++ R\_TC6 ++++++++++++++++

R\_TC7 - Testing the 'setRecipeIngredints' setter in the Recipe class

++++++++++++++++++++++++++++++++

Expected Result: The recipe ingredients will be set to the array list passed into the setter

Actual Result:

Recipe Ingredients: [Ingredient ID: I1

Ingredient Name: Oranges

Ingredient Food Group: Fruit and Veg - 'Apples', 'Onions'

Calories per 100g/100ml: 33 Mass Amount: 56 , Mass Description: grams , Ingredient Extra Info: Peeled, Ingredient ID: I2

Ingredient Name: Apples

Ingredient Food Group: Fruit and Veg - 'Apples', 'Onions'

Calories per 100g/100ml: 33 Mass Amount: 56 , Mass Description: grams , Ingredient Extra Info: Peeled]

++++++++++++++++ R\_TC7 ++++++++++++++++

R\_TC8 - Testing the 'setRecipeType' setter in the Recipe class

++++++++++++++++++++++++++++++++

Expected Result: The recipe type will be set to starter

Actual Result:

Recipe Meal Type: Starter

++++++++++++++++ R\_TC8 ++++++++++++++++

R\_TC9 - Testing the 'setInstructions' setter in the Recipe class with null data

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Recipe steps cannot be left blank

Recipe Steps: null

++++++++++++++++ R\_TC9 ++++++++++++++++

R\_TC10 - Testing the 'setInstructions' setter in the Recipe class when step1 = ' ' and step2 = ' '

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Recipe steps cannot be left blank

Recipe Steps: null

++++++++++++++++ R\_TC10 ++++++++++++++++

R\_TC11 - Testing the 'setInstructions' setter in the Recipe class when step1 = 'cook' and step2 = 'eat'

++++++++++++++++++++++++++++++++

Expected Result: The recipe instructions will be set to the instructions passed into the setter

Actual Result:

Recipe Steps: [cook, eat]

++++++++++++++++ R\_TC11 ++++++++++++++++

R\_TC12\_13 - Testing construction of Recipe class with valid parameters

++++++++++++++++++++++++++++++++

Expected Result: The object will be instantiated

Actual Result:

Recipe ID: R1, Recipe Meal Type: Starter

Recipe Name: lasagne, Portion Size: 3

RECIPE INGREDIENTS:

Oranges: 56 grams - Peeled

Apples: 56 grams - Peeled

RECIPE STEPS:

1. cook

2. eat

Total Calories for recipe: 36

Recipe ID: R1

++++++++++++++++ R\_TC12\_13 ++++++++++++++++

R\_TC14 - Testing construction of Recipe class with invalid parameters

++++++++++++++++++++++++++++++++

Expected Result: The object will be instantiated

Actual Result:

ERROR: Recipe name field entered incorrectly

++++++++++++++++ R\_TC14 ++++++++++++++++

### Recipe Class Corrective Action

R\_TC2 - Testing the 'setRecipeName' setter in the Recipe class when name = ' '

++++++++++++++++++++++++++++++++

Expected Result: An exception will be thrown and caught, informing that the input is invalid

Actual Result:

ERROR: Recipe name field entered incorrectly

Recipe name: null

++++++++++++++++ R\_TC2 ++++++++++++++++

# Manage Ingredient Class Testing

MI\_TC1 - Inserting first element into Ingredient array list

++++++++++++++++++++++++++++++++

Before: []

After: Oranges,

++++++++++++++++ MI\_TC1 ++++++++++++++++

MI\_TC2 - sorting an Ingredient array list

++++++++++++++++++++++++++++++++

Before:

Chicken, Tomatoes, Bell Peppers, Apples, Pastry, Ground Meat, Pasta, Rice, Cheese, Bread, Tomato Puree, Sugar,

After:

Sugar, Tomato Puree, Bread, Cheese, Rice, Pasta, Ground Meat, Pastry, Apples, Bell Peppers, Tomatoes, Chicken,

++++++++++++++++ MI\_TC2 ++++++++++++++++

MI\_TC3 - inserting an instance of the Ingredient class into the middle of a sorted Ingredient array list

++++++++++++++++++++++++++++++++

Before:

Apples, Bell Peppers, Bread, Cheese, Chicken, Ground Meat, Pasta, Pastry, Rice, Sugar, Tomato Puree, Tomatoes,

After:

Apples, Bell Peppers, Bread, Cheese, Chicken, Grapes, Ground Meat, Pasta, Pastry, Rice, Sugar, Tomato Puree, Tomatoes,

++++++++++++++++ MI\_TC3 ++++++++++++++++

MI\_TC4 - inserting an instance of the Ingredient class into the beginning of a sorted Ingredient array list

++++++++++++++++++++++++++++++++

Before:

Apples, Bell Peppers, Bread, Cheese, Chicken, Grapes, Ground Meat, Pasta, Pastry, Rice, Sugar, Tomato Puree, Tomatoes,

After:

Anchovies, Apples, Bell Peppers, Bread, Cheese, Chicken, Grapes, Ground Meat, Pasta, Pastry, Rice, Sugar, Tomato Puree, Tomatoes,

++++++++++++++++ MI\_TC4 ++++++++++++++++

MI\_TC5 - inserting an instance of the Ingredient class into the end of a sorted Ingredient array list

++++++++++++++++++++++++++++++++

Before:

Anchovies, Apples, Bell Peppers, Bread, Cheese, Chicken, Grapes, Ground Meat, Pasta, Pastry, Rice, Sugar, Tomato Puree, Tomatoes,

After:

Anchovies, Apples, Bell Peppers, Bread, Cheese, Chicken, Grapes, Ground Meat, Pasta, Pastry, Rice, Sugar, Tomato Puree, Tomatoes, Walnuts,

++++++++++++++++ MI\_TC5 ++++++++++++++++

MI\_TC6 - searching for an ID that exists in the Ingredient array list

++++++++++++++++++++++++++++++++

ID being searched for: I1

The ingredient with this ID has been found !

Ingredient ID: I1, Ingredient Name: Chicken, Ingredient Food Group: Meats and Poultry - 'Chicken', 'Pork', Calories per 100g/100ml: 78

++++++++++++++++ MI\_TC6 ++++++++++++++++

MI\_TC7 - searching for an ID that doesn't exist in the Ingredient array list

++++++++++++++++++++++++++++++++

ID being searched for: I99

This ID could not be found

++++++++++++++++ MI\_TC7 ++++++++++++++++

MI\_TC8 - searching for an ingredient name that is at the beginning of the ingredient array list

++++++++++++++++++++++++++++++++

Ingredient being searched for: Anchovies

Ingredient ID: I14, Ingredient Name: Anchovies, Ingredient Food Group: Meats and Poultry - 'Chicken', 'Pork', Calories per 100g/100ml: 56

++++++++++++++++ MI\_TC8 ++++++++++++++++

MI\_TC9 - searching for an ingredient name that is in the middle ingredient array list

++++++++++++++++++++++++++++++++

Ingredient being searched for: Grapes

Ingredient ID: I13, Ingredient Name: Grapes, Ingredient Food Group: Fruit and Veg - 'Apples', 'Onions', Calories per 100g/100ml: 56

++++++++++++++++ MI\_TC9 ++++++++++++++++

MI\_TC10 - searching for an ingredient name that is at the end of ingredient array list

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Ingredient being searched for: Walnuts

Ingredient ID: I15, Ingredient Name: Walnuts, Ingredient Food Group: Cereals - 'flour', 'granola', Calories per 100g/100ml: 56

++++++++++++++++ MI\_TC10 ++++++++++++++++

MI\_TC11 - searching for an ingredient name that is not in the ingredient array list

++++++++++++++++++++++++++++++++

Ingredient being searched for: Pineapple

Ingredient not found

++++++++++++++++ MI\_TC11 ++++++++++++++++

### Manage Ingredients Corrective Action

MI\_TC2 - sorting an Ingredient array list

++++++++++++++++++++++++++++++++

Before:

Chicken, Tomatoes, Bell Peppers, Apples, Pastry, Ground Meat, Pasta, Rice, Cheese, Bread, Tomato Puree, Sugar,

After:

Apples, Bell Peppers, Bread, Cheese, Chicken, Ground Meat, Pasta, Pastry, Rice, Sugar, Tomato Puree, Tomatoes,

++++++++++++++++ MI\_TC2 ++++++++++++++++

# Manage Recipe Integration Testing

MR\_TC1 - Inserting first element into Recipe array list

++++++++++++++++++++++++++++++++

Actual Result:

Before: []

After: lasagne,

++++++++++++++++ MR\_TC1 ++++++++++++++++

MR\_TC2 - sorting a Recipe array list

++++++++++++++++++++++++++++++++

Before:

Bread and cheese, Chicken pasta bake, Chilli, Spaghetti bolognase, Apple Pie,

After:

Apple Pie, Bread and cheese, Chicken pasta bake, Chilli, Spaghetti bolognase,

++++++++++++++++ MR\_TC2 ++++++++++++++++

MR\_TC3 - inserting an instance of the Recipe class into the middle of a sorted Recipe array list

++++++++++++++++++++++++++++++++

Before:

Apple Pie, Bread and cheese, Chicken pasta bake, Chilli, Spaghetti bolognase,

After:

Apple Pie, Bread and cheese, Casserole, Chicken pasta bake, Chilli, Spaghetti bolognase,

++++++++++++++++ MR\_TC3 ++++++++++++++++

MR\_TC4 - inserting an instance of the Recipe class into the start of a sorted Recipe array list

++++++++++++++++++++++++++++++++

Before:

Apple Pie, Bread and cheese, Casserole, Chicken pasta bake, Chilli, Spaghetti bolognase,

After:

Angus Beef, Apple Pie, Bread and cheese, Casserole, Chicken pasta bake, Chilli, Spaghetti bolognase,

++++++++++++++++ MR\_TC4 ++++++++++++++++

MR\_TC5 - inserting an instance of the Recipe class into the end of a sorted Recipe array list

++++++++++++++++++++++++++++++++

Before:

Angus Beef, Apple Pie, Bread and cheese, Casserole, Chicken pasta bake, Chilli, Spaghetti bolognase,

After:

Angus Beef, Apple Pie, Bread and cheese, Casserole, Chicken pasta bake, Chilli, Spaghetti bolognase, Waffles,

++++++++++++++++ MR\_TC5 ++++++++++++++++

R\_TC6 - searching for an ID that exists in the Recipe array list

++++++++++++++++++++++++++++++++

ID being searched for: R1

The recipe with this ID has been found !

Recipe ID: R1, Recipe Meal Type: Starter

Recipe Name: Bread and cheese, Portion Size: 4

RECIPE INGREDIENTS:

Cheese: 50 grams - Grate

Bread: 100 grams -

RECIPE STEPS:

1. Heat bread

2. Add cheese to bread

3. Serve

Total Calories for recipe: 85

++++++++++++++++ MR\_TC6 ++++++++++++++++

MR\_TC7 - searching for an ID that doesn't exist in the Recipe array list

++++++++++++++++++++++++++++++++

ID being searched for: R99

This ID could not be found

++++++++++++++++ MR\_TC7 ++++++++++++++++

MR\_TC8 - searching for a recipe name that is at the beginning of the Recipe array list

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Recipe being searched for: Angus Beef

Recipe ID: R7, Recipe Meal Type: Main

Recipe Name: Angus Beef, Portion Size: 3

RECIPE INGREDIENTS:

Beef: 56 grams -

Gravy: 56 grams -

RECIPE STEPS:

1. cook

2. eat

Total Calories for recipe: 36

++++++++++++++++ MR\_TC8 ++++++++++++++++

MR\_TC9 - searching for a recipe name that is in the middle of the recipe array list

++++++++++++++++++++++++++++++++

Recipe being searched for: Casserole

Recipe ID: R6, Recipe Meal Type: Main

Recipe Name: Casserole, Portion Size: 3

RECIPE INGREDIENTS:

Carrots: 56 grams -

Pork: 56 grams - Peeled

RECIPE STEPS:

1. cook

2. eat

Total Calories for recipe: 36

++++++++++++++++ MR\_TC9 ++++++++++++++++

MR\_TC10 - searching for a recipe name that is at the end of the recipe array list

++++++++++++++++++++++++++++++++

Recipe being searched for: Waffles

Recipe ID: R8, Recipe Meal Type: Main

Recipe Name: Waffles, Portion Size: 3

RECIPE INGREDIENTS:

Flour: 56 grams - Sifted

Eggs: 56 grams -

RECIPE STEPS:

1. cook

2. eat

Total Calories for recipe: 36

++++++++++++++++ MR\_TC10 ++++++++++++++++

MR\_TC11 - searching for a recipe name that is not in the recipe array list

++++++++++++++++++++++++++++++++

Recipe being searched for: Carbonarra

Recipe not found

++++++++++++++++ MR\_TC11 ++++++++++