**Exercise 1**

* Set up the development environment.
* Create a new project.
* Change the root node of the Main Activity to Linear Layout
* Add TextViews for the recipe name, ingredients, description, country of origin and buttons for getting previous and next recipes.
* Create a Recipe class with the appropriate variables to store data.
* Set up a RecipeRepository with ArrayList<Recipe>. Hard code data.
* Create a RecipeRepository object in the Main Activity, find the UI elements and set texts accordingly.
* Overwrite the onClick methods of the buttons to perform the desired functionality.

**Exercise 2**

* Create a new Activity with constraint layout (change the starting activity in Android Manifest) and name it appropriately.
* Create EditText fields for name, description and ingredients, a spinner for country of origin and a save button.
* Create a recipe database and use it to populate an ArrayAdapter to populate the spinner.
* Register an onClick handler for the save button that creates a new Recipe object and adds it to the RecipeRepository.
* Create a new activity with ListView that lists all the recipes with just the name (change the starting activity in Android Manifest).

**Exercise 3**

* Add launcher icon.
* Add a picture to the first activity.
* Create a custom adapter to show a country flag next to the name on the ListView page (optional).

**Exercise 4**

* Add a menu entry to the AppBar with a link to the Add Recipe activity.
* Add an intent so that when you click on recipe in the list activity it goes to the recipe details activity (remove previous/next buttons).
* Add an intent to open the new recipe after creation.
* When you click on a country in the recipe details page, it redirects you to its location on Google Maps.
* Add a share button for the recipe page to share the recipe in pure string text. Write a toString method for the recipe class that converts the recipe in an appropriate format.

**Exercise 5**

* Fetch recipe list from the API OkHttp and JSONArray/Object.
* Add a refresh button to the list page menu.
* Fetch data upon opening the details page.
* Add recipe to the backend using the API on save.
* Add a search field for the list (optional).

**Exercise 6**

* Update recipe data in the background.
* Add a toast message when the fetching. Also show error messages.
* Show notification when fetching is done (optional).
* Add the option to edit a recipe that you have created (optional).
* Add the option to delete recipes you have created (optional).
* Create a signed APK for the app.

**Exercise 7**

* Persist favorite recipe ids using Shared Preferences/ SQLite database. Add an icon in the list page to show if it is a favorite recipe.
* Add the option to upload an image on recipe creation.

**Exercise 8**

* Use Android’s TextToSpeech class to generate audio with the recipe page content and play it at the press of a play/pause button.

**Exercise 9**

* Use the location to determine the user’s current country and show local recipes.
* Implement an intent service for this (optional).