

## Task 2.7: Data Analysis and Visualization

### Data Analysis

On this recipe app, I am adding a new feature: “Search Using Recipe Difficulty Level”. Using this feature, users should be able to choose the difficulty of recipes from the database and the type of chart they want the data to be displayed on.

### Search for recipes in database

Recipe diff:  Chart type:

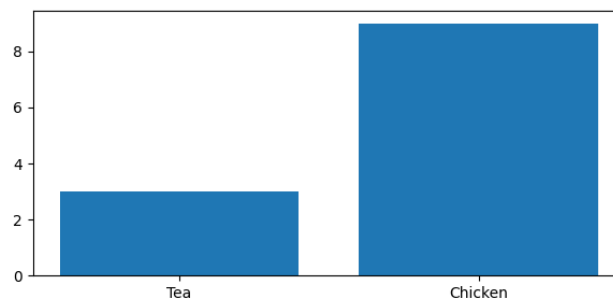
no data

According to the search criteria entered by the user (recipe difficulty and chart type), the app should extract the recipes needed from the database as QuerySet, convert the QuerySet to pandas DataFrame, and display the results as a table.

### Search for recipes in database

Recipe diff:  Chart type:

	id	name	cooking_time	ingredients	description	pic
0	1	Tea	3.0	Tea-leaves, Sugar, Water	Tea is an aromatic beverage prepared by pouring hot or boiling water over cured or fresh leaves.	recipes/Tea.jpg
1	6	Chicken	9.0	Chicken, Peanut, Coconut	This light but creamy curry is super scrummy and perfect for a quick weeknight meal.	recipes/Chicken.jpg



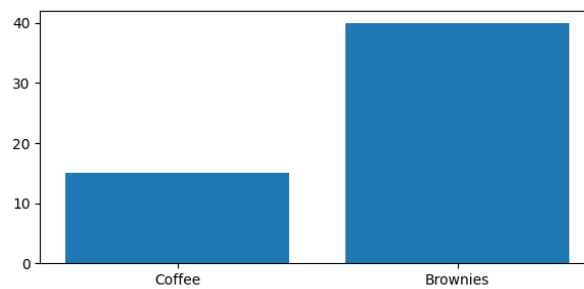
In the above image, I have chosen ‘Easy’ as the difficulty level on the form and the app displayed two recipes with ‘easy’ level difficulties to cook.

The app also gives data visualization on the search page using the 'matplotlib' library. According to the chart type chosen by the user, it displays a chart with the names of the recipes searched against their respective cooking times. The following images are charts of recipes in the database with 'intermediate' difficulty and their cooking times compared.

## Search for recipes in database

Recipe diff: Intermediate Chart type: Bar chart search

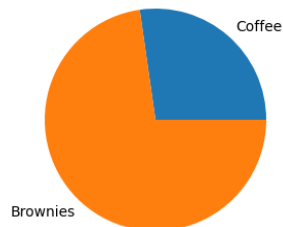
	id	name	cooking_time	ingredients	description	pic
0	2	Coffee	15.0	Coffee, Sugar, Water	Coffee is a beverage brewed from the roasted and ground seeds of the tropical evergreen coffee plant.	recipes/Coffee.jpg
1	5	Brownies	40.0	Cocoa-powder, Sugar, Water	Brownies are chocolate baked products made in square or rectangle shapes.	recipes/Brownies.jpg



## Search for recipes in database

Recipe diff: Intermediate Chart type: Pie chart search

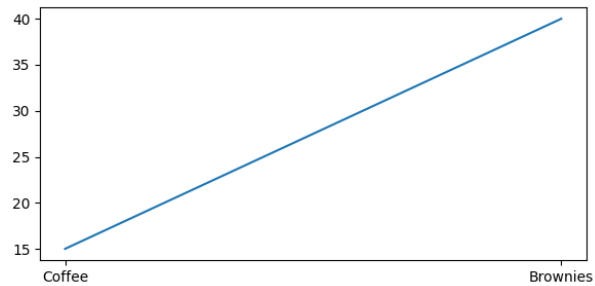
	id	name	cooking_time	ingredients	description	pic
0	2	Coffee	15.0	Coffee, Sugar, Water	Coffee is a beverage brewed from the roasted and ground seeds of the tropical evergreen coffee plant.	recipes/Coffee.jpg
1	5	Brownies	40.0	Cocoa-powder, Sugar, Water	Brownies are chocolate baked products made in square or rectangle shapes.	recipes/Brownies.jpg



## Search for recipes in database

Recipe diff:  Chart type:

	id	name	cooking_time	ingredients	description	pic
0	2	Coffee	15.0	Coffee, Sugar, Water	Coffee is a beverage brewed from the roasted and ground seeds of the tropical evergreen coffee plant.	recipes/Coffee.jpg
1	5	Brownies	40.0	Cocoa-powder, Sugar, Water	Brownies are chocolate baked products made in square or rectangle shapes.	recipes/Brownies.jpg



### Execution flow:

The following images show the flow of the user on the app.



## Welcome to Recipe App

Log-in to your account to see our list of recipes

Login

List

# Login

Username:

Password:

Login

Cancel

Home

Search

Logout

**Cooking Time:** 3.0  
**Difficulty:** Easy



**Cooking Time:** 15.0  
**Difficulty:** Intermediate



**Cooking Time:** 12.0  
**Difficulty:** Hard



## Details: Tea

**Name:** Tea

**Cooking Time (min):** 3.0

**Difficulty:** Easy

**Ingredients:** Tea-leaves, Sugar, Water

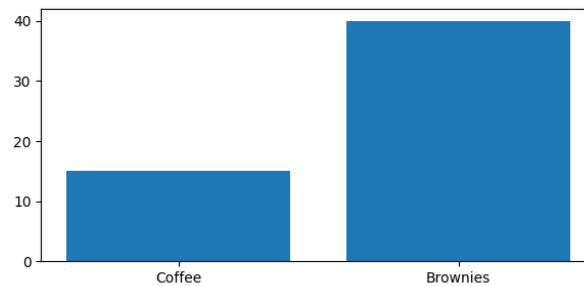
**Description:** Tea is an aromatic beverage prepared by pouring hot or boiling water over cured or fresh leaves.



## Search for recipes in database

Recipe diff:  Chart type:

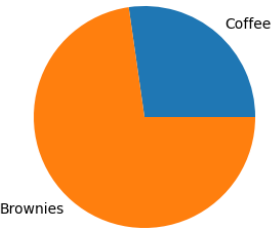
	id	name	cooking_time	ingredients	description	pic
0	2	Coffee	15.0	Coffee, Sugar, Water	Coffee is a beverage brewed from the roasted and ground seeds of the tropical evergreen coffee plant.	recipes/Coffee.jpg
1	5	Brownies	40.0	Cocoa-powder, Sugar, Water	Brownies are chocolate baked products made in square or rectangle shapes.	recipes/Brownies.jpg



## Search for recipes in database

Recipe diff: Intermediate Chart type: Pie chart search

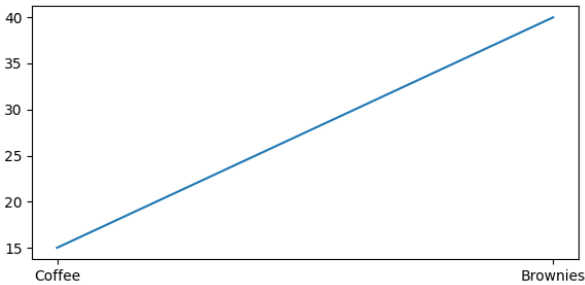
	id	name	cooking_time	ingredients	description	pic
0	2	Coffee	15.0	Coffee, Sugar, Water	Coffee is a beverage brewed from the roasted and ground seeds of the tropical evergreen coffee plant.	recipes/Coffee.jpg
1	5	Brownies	40.0	Cocoa-powder, Sugar, Water	Brownies are chocolate baked products made in square or rectangle shapes.	recipes/Brownies.jpg



## Search for recipes in database

Recipe diff: Intermediate Chart type: Line chart search

	id	name	cooking_time	ingredients	description	pic
0	2	Coffee	15.0	Coffee, Sugar, Water	Coffee is a beverage brewed from the roasted and ground seeds of the tropical evergreen coffee plant.	recipes/Coffee.jpg
1	5	Brownies	40.0	Cocoa-powder, Sugar, Water	Brownies are chocolate baked products made in square or rectangle shapes.	recipes/Brownies.jpg



**Successfully Logged Out!**

Login

Home