

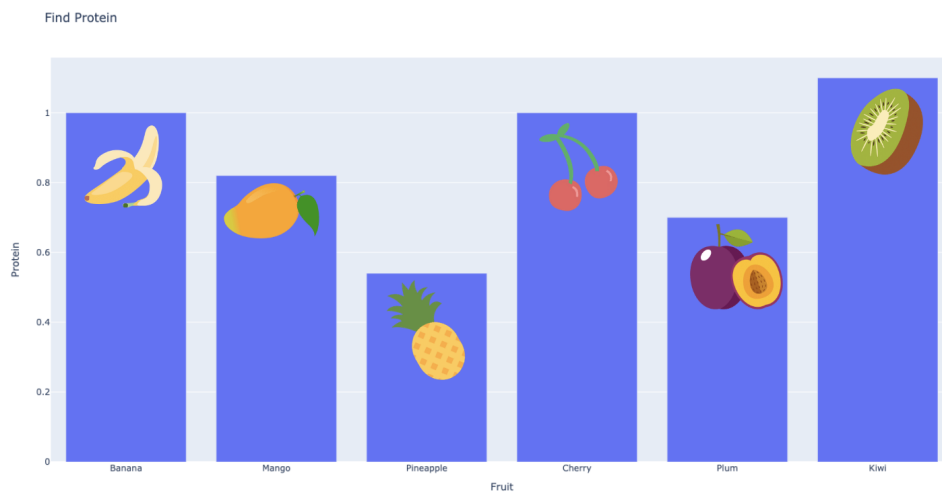
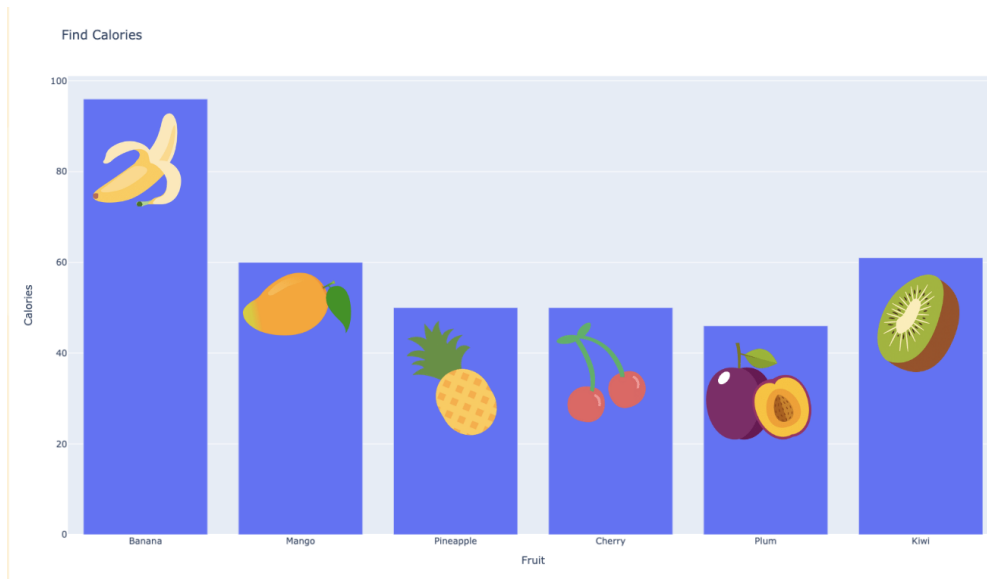
206 Final Report

Team members: Isabel Lopez, Nyia George, Caira Blevins

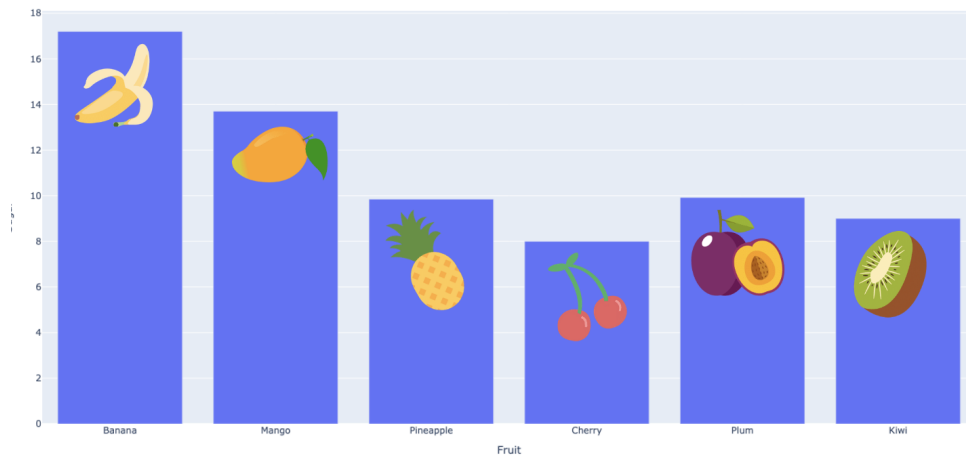
1. The goals for your project (10 points)
 - a. The goals for our project were to learn more about the foods we eat daily, in this case fruit. We wanted to learn more about the nutritional facts within our fruit (i.e. calories, protein, sugar, etc), what temperature that is needed for it to grow, and what season produces the highest quality of the fruit. We wanted to help make it easier for people to find the healthiest fruits to eat for people that are trying to diet or understand what they are inputting in their bodies. This is important especially for people with diabetes. To do this we were going to see if there was any correlation between the different varieties of how a fruit is made up and grown to see if it relates to how healthy it is. Our goals were to make graphs to analyze data that can compared seasons and temperatures to calories, protein, and sugar to see the health differences between fruits.
2. The goals that were achieved (10 points)
 - a. Finding nutritional facts for fruit from FruitVice API (i.e fats, sugar, protein) - **task completed ✓**
 - b. Finding climate information for fruit from Tropical Fruit and Veg API (i.e. temperatures the fruit are grown in using both celsius and fahrenheit) - **task completed ✓**
 - c. Finding peak freshness seasons for fruit from USDA website - **task completed ✓**
 - d. Creating a database and multiple tables to store the information we have collected from our website and two APIs - **task completed ✓**
 - e. Creating five visualizations for the project overall - **task completed ✓**
 - f. Creating calculations for FruityVice API (calculating the mean for calories, protein, and sugar for six graphed fruits) and Seasons Produce Guide website (calculating which fruit is grown the most within the four seasons using a pie chart) - **task completed ✓**
3. The problems that you faced (10 points)
 - a. We had an issue with our Fruity API not having over 100 items in it but it had such useful information that we decided to keep it in our project.
 - b. With our second API, Tropical Fruit and Veg we found it difficult to find a consistent output when running our code. The data we wanted to collect for temperature was calculated in both celsius and fahrenheit so we had to use a regex statement to gather this information. Although this was a difficult task we were able to convert fruit temperatures that were in celsius to fahrenheit which helped us meet the requirement for needing a calculation for each API.
 - c. We had an issue with the fruity.py because we hard coded each fruit and we were trying to go through the entire list to get all the information for every fruit.
 - d. Another issue that we faced is that none of us on the team have ever worked with databases before, thus it was very new to work with building up tables in databases for all of us. When finally understanding how each item gets assigned a

number it helps when knowing how not to create duplicate data. The API for rainfall, titled tropical.py, we had issues with the output being consistent. Some of the rainfall descriptions were in cm, mm, m or the description was not even in qualitative numbers.

- e. Also, we struggled with the website to get out all the bulleted points with regex along with the extra intended.
4. Your file that contains the calculations from the data in the database (10 points)
 - a. We got the percentages of the fruit that appear the most each season
 - b. Calculating the average mean for calories, sugar, and protein of six fruits.
 - c. Calculating what the temperatures in celsius would be in fahrenheit
5. The visualization that you created (i.e. screenshot or image file) (10 points)

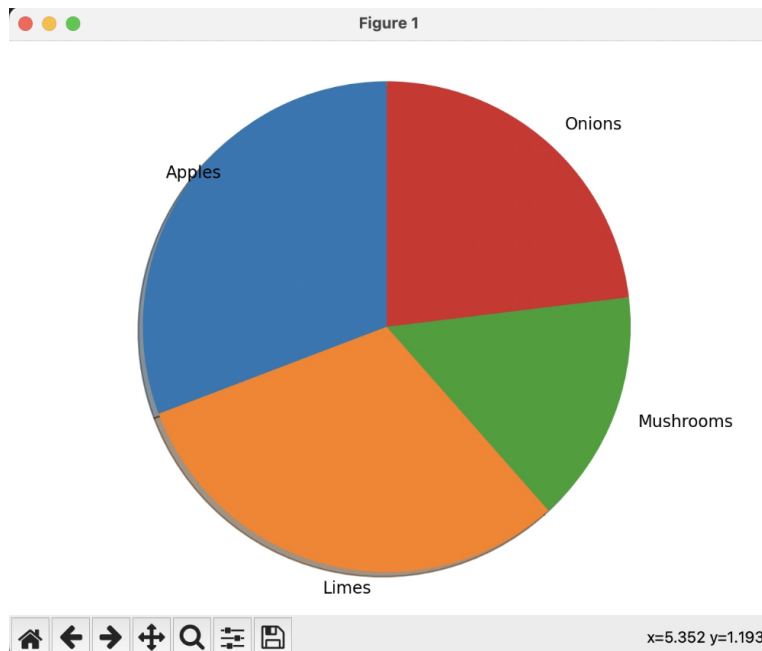


Find Sugar



Finding the Mean For Three Nutritional Facts





6. Instructions for running your code (10 points)

- Go into fruity.py and press play to get out the graphs of the means of the health categories, calories for each fruit, protein for each fruit, and sugar for each fruit. In the output in visual studio you can see the number we got out from our functions that we made to grab out that information.
- Go to wififruit.py and press play there will be nothing in the output. However, when you open up DB Browser for SQLite you will be getting out our database with tables one for fruits to get assigned their number and one for the seasons to get assigned theirs too.
- Go to tropical.py and press play there will list the fruits with their corresponding temperature next to it.

7. Documentation for each function that you wrote. This includes the input and output for each function (20 points)

a.

```
True
<re.Match object; span=(137, 154), match='rainfall of 10 cm'>
The edible bananas are restricted to tropical or near tropical regions. A suitable banana climate is a mean temperature of 26°C and mean rainfall of 10 cm per month. There should not be more than 3 months of dry season. Cool weather and prolonged drought retard growth. Banana plants produce only one leaf per month in winter, 4 per month in summer. If low temperatures occur just at flowering time, the bud may not be able to emerge from the stem.
```

```
{'Banana': 96, 'Mango': 60, 'Pineapple': 50, 'Cherry': 50, 'Plum': 46, 'Kiwi': 61}
{'Banana': 1, 'Mango': 0.82, 'Pineapple': 0.54, 'Cherry': 1, 'Plum': 0.7, 'Kiwi': 1.1}
{'Banana': 17.2, 'Mango': 13.7, 'Pineapple': 9.85, 'Cherry': 8, 'Plum': 9.92, 'Kiwi': 9}
{'Cherry': {'protein': 1, 'calories': 50, 'sugar': 8}}
{'Mango': {'protein': 0.82, 'calories': 60, 'sugar': 13.7}}
{'calories': 60.5, 'protein': 0.86, 'sugar': 11.278333333333332}
```

[illegible]

8. You must also clearly document all resources you used. The documentation should be of the following form (20 points)
- Fruityvice API - <https://www.fruityvice.com/#1>
 - Tropical fruit and vegetable API - <https://www.tropicalfruitandveg.com/index.php>
 - Season Produce Guide - <https://snaped.fns.usda.gov/seasonal-produce-guide>
 - Canva presentation slides - https://www.canva.com/design/DAFUHRJ-ZF8/2MqnBpDefL53ya5QJQmw3A/edit?utm_content=DAFUHRJ-ZF8&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

Below is screenshot examples of the tables

New Database Open Database Write Changes Revert

Table: matchedfruit

	id	FruitName	calories	protein	sugar	seasons	temperature
	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	0	Banana	96	1	17.2	Spring	26 C
2	1	Blackber...	40	1.3	4.5	Summer	27 C
3	2	Blueberry	29	0	5.4	Summer	29 C
4	3	Cherry	50	1	8	Summer	6 C
5	4	Cranberry	46	0.4	4	Fall	20 C
6	5	Grape	69	0.72	16	Fall	13 C
7	6	Kiwi	61	1.1	9	Fall	-2 C
8	7	Lemon	29	1.1	2.5	Fall	7 C
9	8	Lime	25	0.3	1.7	Winter	12.7 C
10	9	Mango	60	0.8	13.7	Fall	25 C
11	10	Orange	43	1	0.82	Winter	13 C
12	11	Peach	39	0.9	8.4	Summer	2 C
13	12	Pear	57	0.4	10	Fall	4 C
14	13	Pineapple	50	0.54	9.85	Winter	-45 C
15	14	Plum	46	0.7	9.92	Summer	20 C
16	15	Raspberry	53	1.2	4.4	Fall	10 C
17	16	Strawbe...	29	0.8	5.4	Summer	21 C
18	17	Tomato	74	0.9	2.6	Summer	12.7 C
19	18	Waterm...	30	0.6	6	Summer	35 C

1 - 19 of 19

New Database Open Database Write Changes Revert Changes You are screen sharing 0 Stop Share 0 Open Project 0 Open Project Attach Database X Close Database

Database Structure Browse Data Edit Pragma Execute SQL

Table: matchedfruit

	id	FruitName	calories	protein	sugar	seasons	temperature
	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	0	Banana	96	1	17.2	Spring	26 C
2	1	Blackber...	40	1.3	4.5	Summer	27 C
3	2	Blueberry	29	0	5.4	Summer	29 C
4	3	Cherry	50	1	8	Summer	6 C
5	4	Cranberry	46	0.4	4	Fall	20 C
6	5	Grape	69	0.72	16	Fall	13 C
7	6	Kiwi	61	1.1	9	Fall	-2 C
8	7	Lemon	29	1.1	2.5	Fall	7 C
9	8	Lime	25	0.3	1.7	Winter	12.7 C
10	9	Mango	60	0.8	13.7	Fall	25 C
11	10	Orange	43	1	0.82	Winter	13 C
12	11	Peach	39	0.9	8.4	Summer	2 C
13	12	Pear	57	0.4	10	Fall	4 C
14	13	Pineapple	50	0.54	9.85	Winter	-45 C
15	14	Plum	46	0.7	9.92	Summer	20 C
16	15	Raspberry	53	1.2	4.4	Fall	10 C
17	16	Strawbe...	29	0.8	5.4	Summer	21 C
18	17	Tomato	74	0.9	2.6	Summer	12.7 C
19	18	Waterm...	30	0.6	6	Summer	35 C