

# Fruit Prices

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# Outline

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- Conclusion

# Executive Summary

## Analysis of Fruit Prices

### Objective:

- Conduct a comprehensive analysis of fruit prices to identify the cheapest, most expensive, and average costs. Utilized data from the US Department of Agriculture database.

### Methodology:

- Collected and analyzed data systematically. Identified pricing disparities using advanced statistical methods.

### Key Findings:

- Uncovered significant price variations among fruits.
- Identified budget-friendly options, premium products, and average pricing trends.

### Implications:

- Informs consumers for budget-friendly choices.
- Assists retailers in pricing strategies.
- Provides insights for policymakers on market dynamics.

### Conclusion:

- Project successfully revealed fruit pricing trends, aiding consumers, retailers, and policymakers in strategic decision-making.

# Introduction

- In today's fast-paced market, understanding the nuances of pricing is crucial for consumers, retailers, and policymakers. This presentation delves into a comprehensive analysis of fruit prices, aiming to uncover the cheapest, most expensive, and average costs. By harnessing the wealth of data from the US Department of Agriculture, we have dissected the pricing landscape, providing valuable insights for informed decision-making. Join us as we unveil key findings, shedding light on budget-friendly options, premium choices, and overall market trends. Let's navigate the diverse world of fruit prices together, empowering our choices and strategies in the dynamic marketplace.

# Methodology

## Executive Summary

- Data Collection Source
  - Our data drives from the US Department of Agriculture website in a format of CSV
- How data was processed
  - We have conducted a verification if there was any NULL values in the dataset
  - Grouped fruit by their forms and used Retail Prices.
  - Conducted minimum values, maximum values and average for each fruit form.
- Performed exploratory data analysis using dashboard visualization.

# Data Collection Summary

- In this project, we're using data from the US Department of Agriculture in a format of CSV via website at:  
<https://www.ers.usda.gov/webdocs/DataFiles/51035/Fruit%20Prices%202020.csv?v=4860.2>

# Data Collection

- Utilizing pandas `read_csv()` function, we imported the USDA dataset into a dataframe for efficient processing.
- By applying `isnull().sum()`, we confirmed the dataset had no missing values.

Import required libraries and define functions



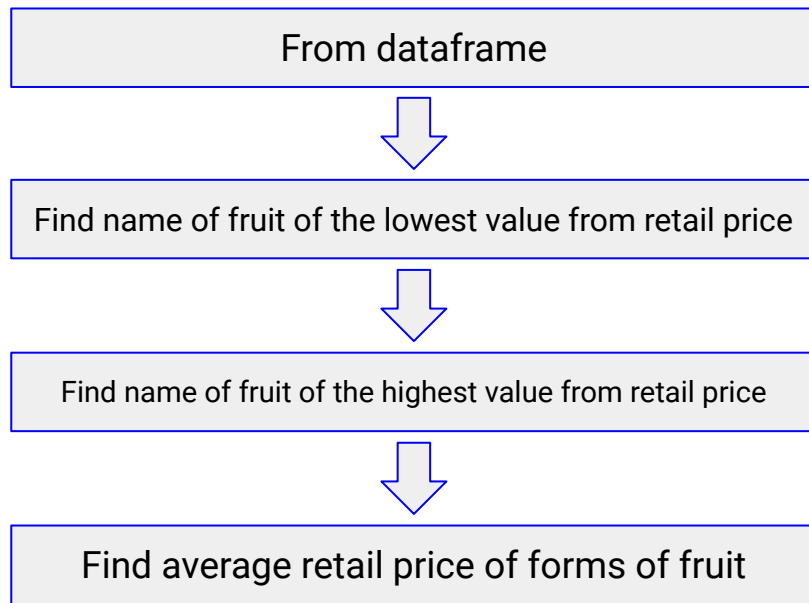
Download dataset and apply it to a dataframe



Find NULL values

# Data Wrangling

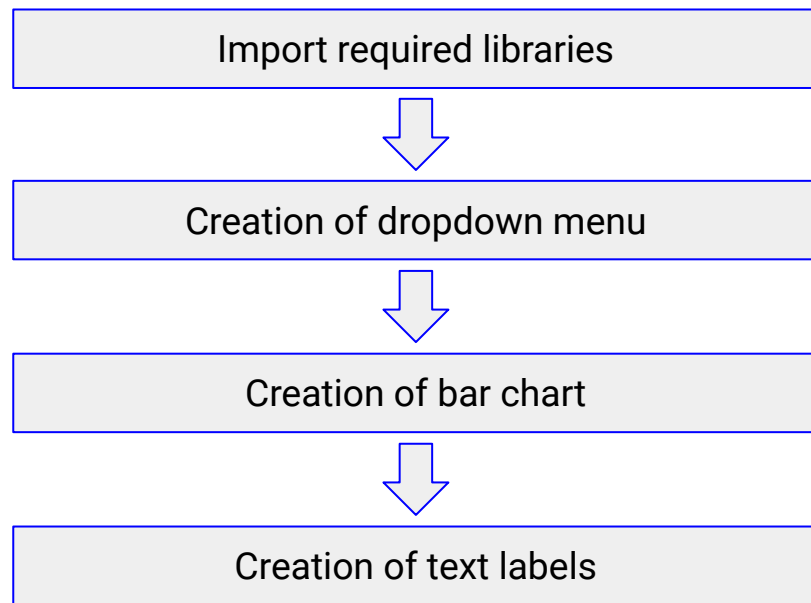
- Used the function `find_cheapest_fruit()`, which allows us to determine the lowest value of retail price per form of fruit.
- Used the function `find_expensive_fruit()`, which allows us to determine the highest value of retail price per form of fruit.
- Used `average_fruit()`, which allows us to determine the average of the retail price per form of fruit.





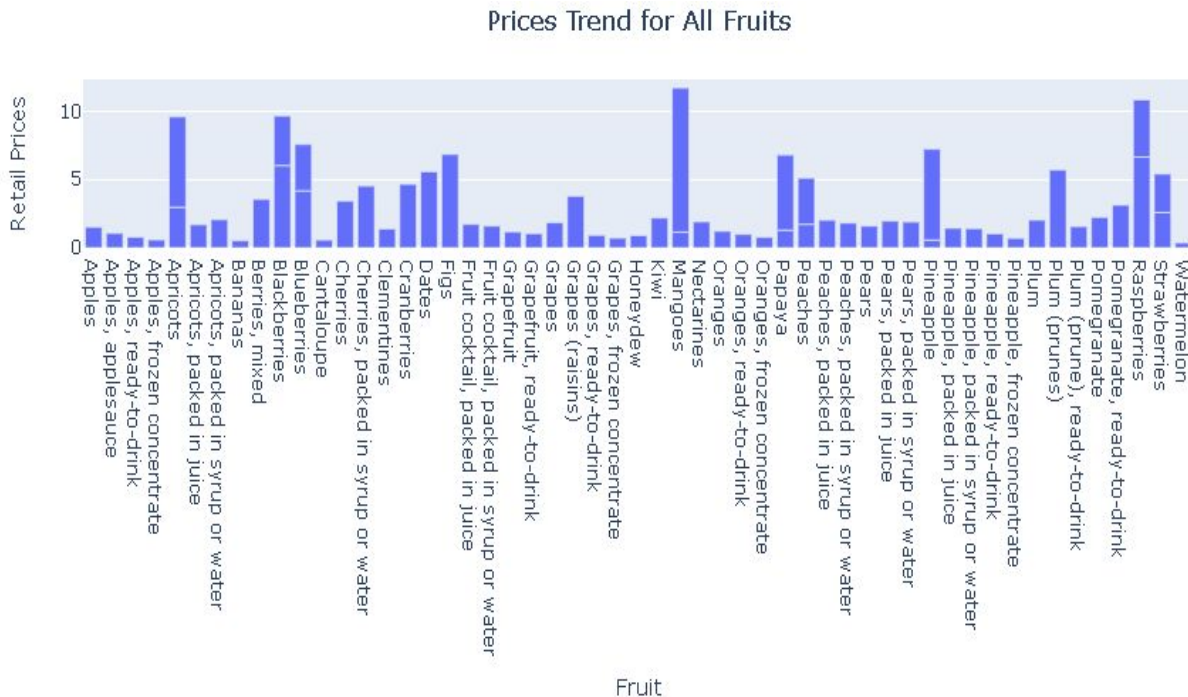
# EDA using Dashboard for Data Visualization

- The dashboard created was created with the library dash, and with following components:
  - A Dropdown menu with the different types of forms of fruit.
  - A bar chart of the name of the fruit and retail price for the selected option with the library plotly.express .
  - A text label with the cheapest, most expensive with the respective name, retail price and retail unit
  - A text label with the average retail price for the selected option



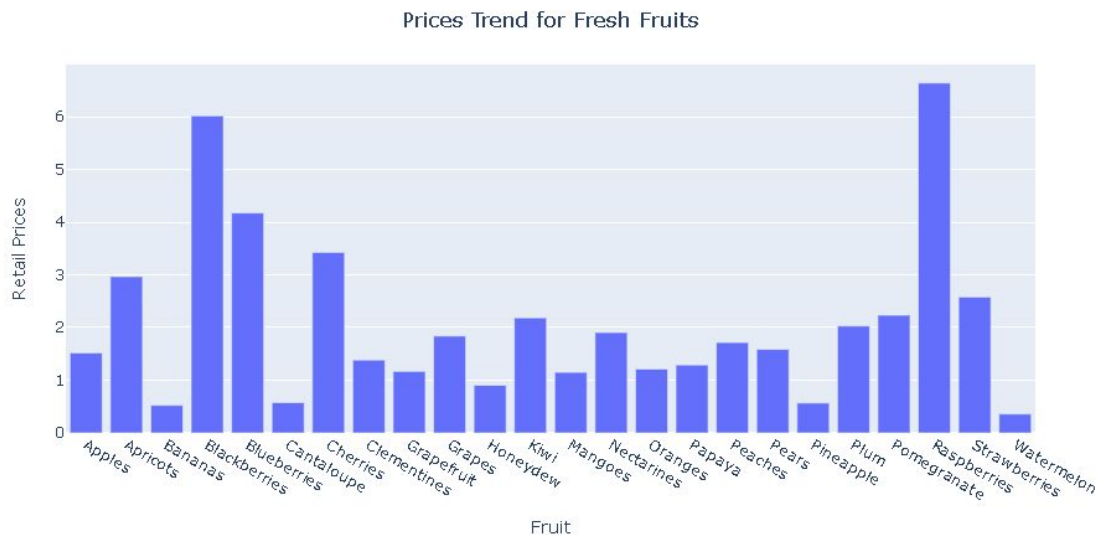
# Results – All Fruits

- The chart helped provide more insights of the fruits with their prices.
- The cheapest of all fruits is fresh watermelon with the retail price of \$0.36 per pound
- The most expensive of all fruits is dried Mangoes with a retail price of \$10.55 per pound.
- The average price of all fruits is \$2.62.



# Results – Fresh Fruits

- The chart helped provide more insights of fresh fruits with their prices.
- The cheapest of fresh fruits is watermelon with the retail price of \$0.36 per pound
- The most expensive of fresh fruits is Raspberries with a retail price of \$6.64 per pound.
- The average price of fresh fruits is \$2.08.



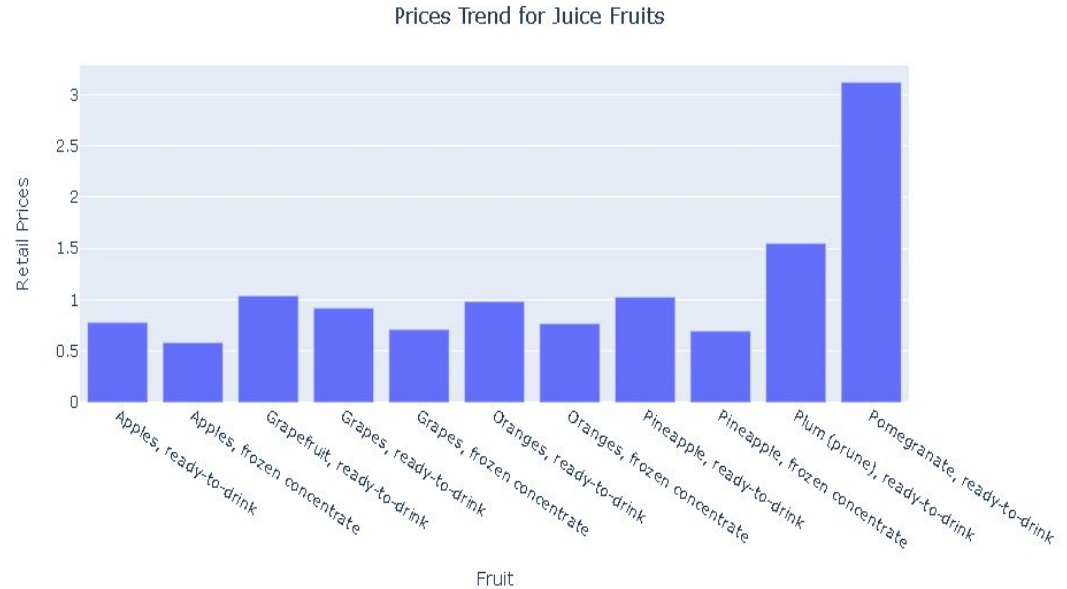
# Results – Canned Fruits

- The chart helped provide more insights of canned fruits with their prices.
- The cheapest of canned fruits is Apples in applesauce with the retail price of \$1.07 per pound
- The most expensive of canned fruits is Cherries, packed in syrup with a retail price of \$4.53 per pound.
- The average price of canned fruits is \$1.93.



# Results – Juice Fruits

- The chart helped provide more insights of Juice fruits with their prices.
- The cheapest of canned fruits is Apples, frozen concentrate with the retail price of \$0.59 per pint.
- The most expensive of juice fruits is Pomegranate, ready-to-drink, with a retail price of \$3.12 per pint.
- The average price of juice fruits is \$1.11.



# Results – Dried Fruits

- The chart helped provide more insights of Dried fruits with their prices.
- The cheapest of dried fruits is Grapes (raisins), with the retail price of \$3.78 per pond.
- The most expensive of dried fruits is Mangoes, with a retail price of \$10.55 per pound.
- The average price of dried fruits is \$6.21.



# Results – Frozen Fruits

- The chart helped provide more insights of Dried fruits with their prices.
- The cheapest of frozen fruits is Strawberries, with the retail price of \$2.82 per pond.
- The most expensive of frozen fruits is Raspberries, with a retail price of \$4.19 per pound.
- The average price of frozen fruits is \$3.50.



# Conclusion

We have concluded that the cheapest fruit is Watermelon with a retail price of \$0.36 per pound.

The most expensive fruit is Dried Mangoes, with a retail price of \$10.55 per pound.

The most cheapest overall form of fruit is Juice, then Canned.

The most expensive overall form of fruit is Dried, then Frozen.