Superpy

Three technical Elements:

- **CSV**:

  All the data in Superpy Application is stored and maintained in csv files.
  Different logics were implemented to access data for various purposes differently,
  for example, while selling a specific item, list of those items is loaded from csv file in memory and items are sorted by price and hence item with lowest price is passed for being sold. This logic involves, utilization of different type of techniques such as storing data in Dictionaries, Grouping data, sorting, filtering and writing back to csv.
  The helps to make sure that data will always be structured and stored in appropriate format inside csv file, which can of course be transformed to different platforms such as excel.

  In nutshell, using CSV for writing data provides a flexible, widely supported, and human-readable format that is suitable for a variety of applications, for later use. Also CSV is universally supported format, that is compatible with a wide range of software, including spreadsheet applications, databases, and programming languages.

- **Rich**
  Rich is a Python library for rich text and beautifying format in the terminal. In Superpy, one of the requirements was to show available inventory in table view. In the beginning, this table was created manually, by designing a constant table header and row splitter.
  Later on, this design has been replaced by Rich library as it helped to eradicate lots of unnecessary lines of codes which were written before to build table.
  While instantiating Rich Table object, we can define table structure and styles, and continue with adding columns. There is also possibility to add columns width, style and name. In this application, Item class attributes are used to define table columns and its objects populates Rich table row.

Product Name	Count	Buy Price	Expiration Date
apple	1	1.8	2023-12-22
apple	1	1.8	2023-12-22
orange	1	0.8	2023-12-26
orange	1	2.0	2024-01-14
orange	1	2.0	2024-01-16
orange	1	2.0	2024-01-16
orange	1	2.0	2024-01-16

- **Matplotlib**
  Matplotlib is widely used for creating static, animated, and interactive visualizations in Python, and it's commonly employed in data analysis, scientific research, and other fields.
  In Superpy, a specific report type has been added named by '*chart'*. This chart is built using external library Matplotlib. The chart is structure to represent stock information about current inventory, with clear distinction between each product, using color scheme. A separate csv file is added to define each product metadata, including name color, color name which are used as labels in chart. Logic is implemented to get all product names and colors and get information about each product's stock and plot this as a *Bar Chart* in terminal.

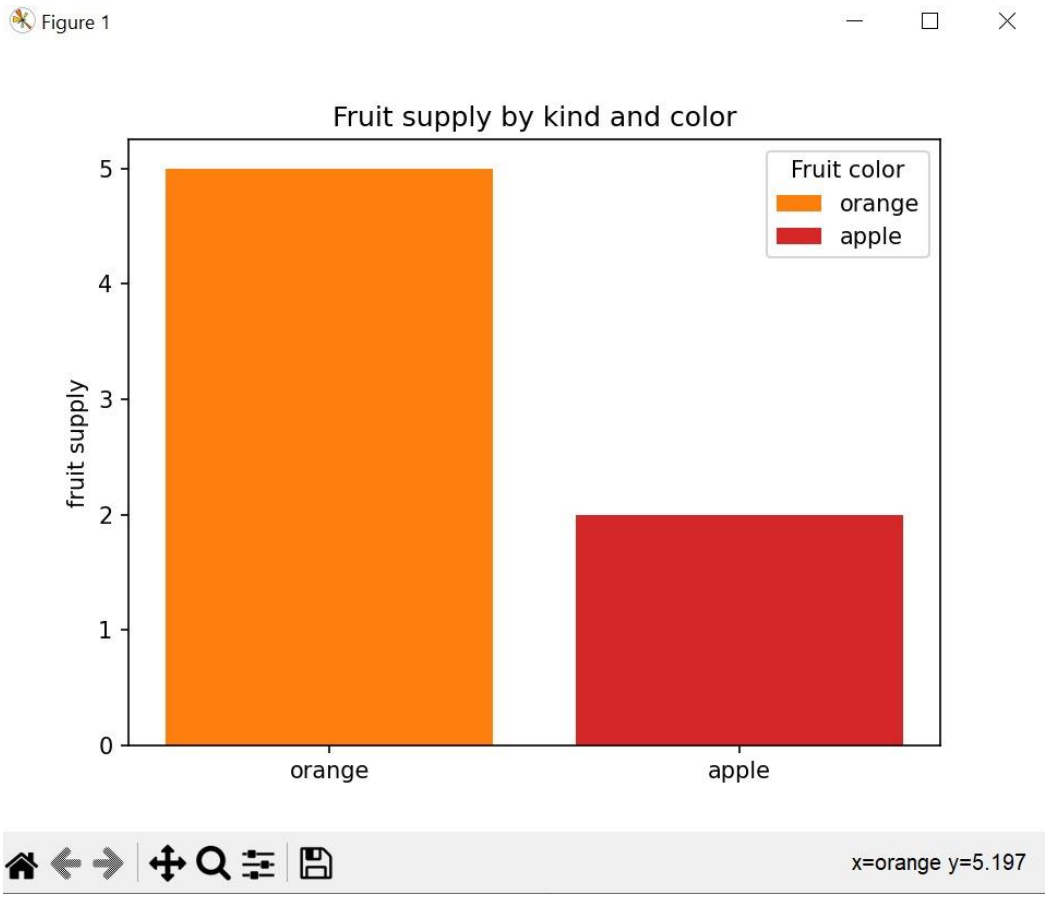
Figure 1
Fruit supply by kind and color
Fruit color
orange
apple
fruit supply
0
1
2
3
4
5
orange
apple
x=orange y=5.197