

```

1 import numpy as np
2 import matplotlib.pyplot as plt
3 import pandas as pd
4 import csv
5
6 spamreader1 = pd.read_csv('/Users/serkanaymaz/Downloads/world_pop.csv', index_col = 'Country Name')
7
8 world_pop = spamreader1.loc['World'].values.tolist()
9
10 world_pop = world_pop[3:-1]
11
12 print(world_pop)
13
14 years = []
15
16 for i in range(1960, 2023):
17     years.append(i)
18
19 print(years)
20
21 print(len(world_pop))
22 print(len(years))
23
24 plt.plot(years, world_pop)
25 plt.title("World Population From 1960-2022")
26 plt.xlabel("Year")
27 plt.ylabel("World Population (in billions)")
28 plt.show()
29
30

```

This was the code used to create the world population graph:

- First, we imported all the necessary modules in order to plot successfully.
- 'spamreader1' read the file path, and each specific population value was then put into a list titled 'world_pop'
- The list initially included values that weren't needed, which is why we specified the indices to be [3:-1].
- To make sure the list was correct, we printed it.
- Our dataset includes the world population from 1960 to 2022, so we first created an empty list for the years and made a for loop that would add the values from 1960-2022 to the list.
- Again, to make sure the list was right, we printed it.
- Since both lists need to be the same length when plotting, we printed the lengths of both lists to make sure they were equal.
- With this, we were able to make our graph! We titled it "World Population From 1960-2022," and labeled the x-axis "Year" (since it has the years from 1960-2022). We labeled the y-axis "World Population (in billions)" because the graph labels the y-axis from 3 to 8 with e9 at the top corner, which some may not notice.

```

1 spamreader2 = pd.read_csv('/Users/serkanaymaz/Downloads/Untitled spreadsheet - Sheet1.csv', index_col='Year')
2 avg_apple_price = spamreader2['Average Price'].tolist()
3
4 print(avg_apple_price)
5
6 years2 = []
7
8 for i in range(1980, 2018):
9     years2.append(i)
10
11 print(years2)
12
13 print(len(avg_apple_price))
14 print(len(years2))
15
16 pt.plot(years2, avg_apple_price)
17 pt.title("Average Apple (Red Delicious) Price per Pound From 1980-2017")
18 pt.xlabel("Year")
19 pt.ylabel("Average Apple Price per Pound (in USD)")
20 pt.show()
21

```

This was the code used to create the average apple price graph:

- Since the necessary modules were already imported, we didn't need to import them again (this code is in a different cell).
- 'Spamreader2' read the dataset that had the average apple prices from 1980-2017.
- With this, we were able to create the list 'avg_apple_price' which included all the average prices from the dataset
- Since the years involved with this data are from 1980 to 2017, while the years involved with the population data are from 1960 to 2022, we had to create a separate years list called 'years2'
- As stated previously, this dataset involves the years 1980 to 2017. We made a for loop with the range (1980, 2018) in order to add all the necessary values to the previously created empty list 'years2'
- Again, to make sure the lists were the same length, we printed the length of each list
- With this, we were able to plot! Our graph is titled "Average Apple (Red Delicious) Price per Pound From 1980-2017"
- The x-axis is (again) titled "Year" and the y-axis is titled "Average Apple Price per Pound (in USD)"
- NOTE: since there weren't any formal datasets for the average apple prices throughout the years, we used the data from <https://www.in2013dollars.com/Apples/price-inflation> to create our own dataset.