

Week 3-4 - Assignment

Prepare - Line charts and Step charts

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Introduction: Assignment Details

You need to submit 3 line charts and 3 step charts using Tableau or PowerBI, Python and R using the data below (or your own datasets). You can also submit using D3, though not required. You can choose which library to use in Python or R, documentation is provided to help you decide and as you start to play around in the libraries, you will decide which you prefer.

Source Data

<https://content.bellevue.edu/cst/dsc/640/datasets/ex2-2.zip>

```
In [1]: # Impprt required libraries/packages
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

# configure display of graph
%matplotlib inline
```

Load data into a dataframe

```
In [2]: # load the csv file as a data frame
world_population = pd.read_excel('world-population.xlsm')
# summarize the shape of the dataset
print("Dataset Shape: ",world_population.shape)
# see the sample of the data
print("\n\nSample Data: ")
world_population.head()
```

Dataset Shape: (50, 2)

Sample Data:

```
Out[2]:
```

	Year	Population
0	1960	3028654024
1	1961	3068356747
2	1962	3121963107
3	1963	3187471383
4	1964	3253112403

Line Chart

```
In [3]: # Line bar chart

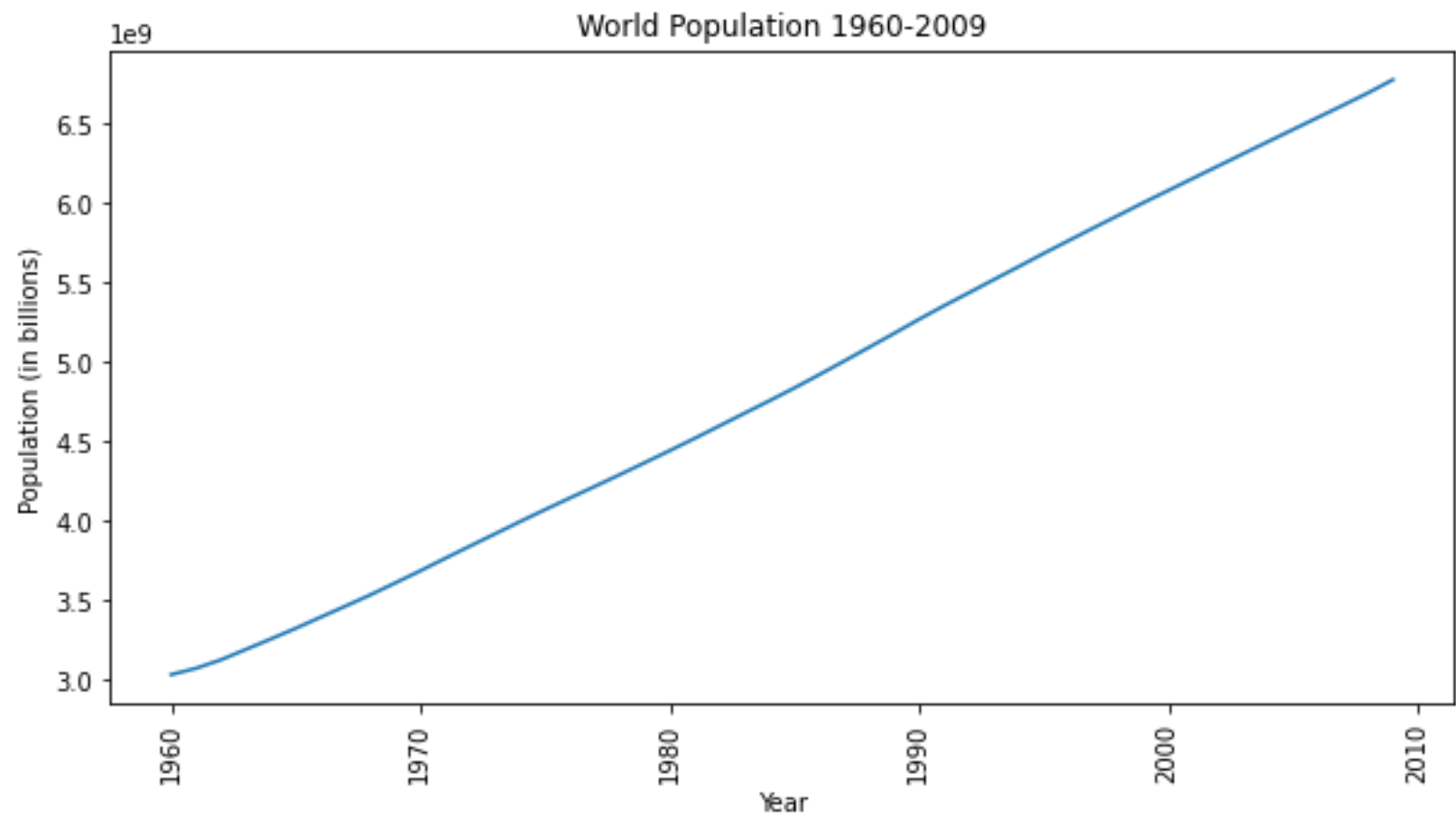
# Set plot size
plt.figure(figsize=[10,5])

#plot the line chart
plt.plot(world_population['Year'], world_population['Population'])

#setup label
plt.xlabel('Year')
plt.xticks(rotation=90)
plt.ylabel('Population (in billions)')

# setup title
plt.title('World Population 1960-2009')

#Show now
plt.show()
```



Step Chart

```
In [4]: # Step chart

# Setup step
step_year_5 = world_population[world_population['Year'] % 5 == 0]

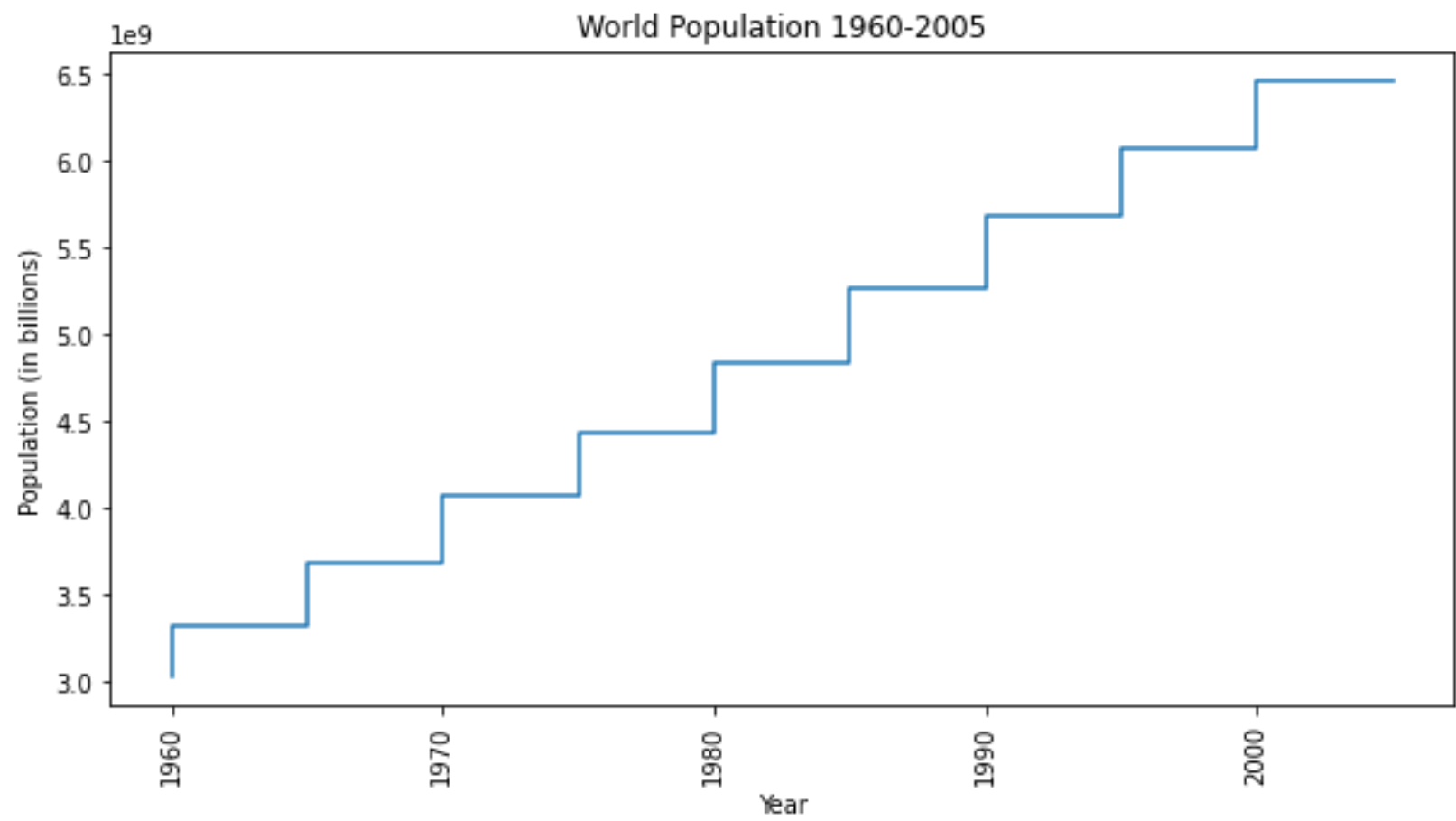
# Set plot size
plt.figure(figsize=[10,5])

#plot the step chart
plt.step(step_year_5['Year'], step_year_5['Population'])

#setup label
plt.xlabel('Year')
plt.xticks(rotation=90)
plt.ylabel('Population (in billions)')

# setup title
plt.title('World Population 1960-2005')

#Show now
plt.show()
```



In []: