Assignment_3_2_R & Python_code_Raghuwanshi_Prashant_DSC640

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3.2 Assignment: Line Charts and Step Charts

Name: Prashant Raghuwanshi

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Course: DSC640-T301 Data Presentation & Visualizat (2223-1)

[1]:
```
##### Import common Data preparation libraries:
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

[2]:
```
##### read source file into contest_winners_df dataframe
world_population_df = pd.read_excel('world-population.xlsm')
# converting the populations in millions
world_population_df['Population'] = world_population_df['Population'].
 ↪apply(lambda x: x/1000000)
```

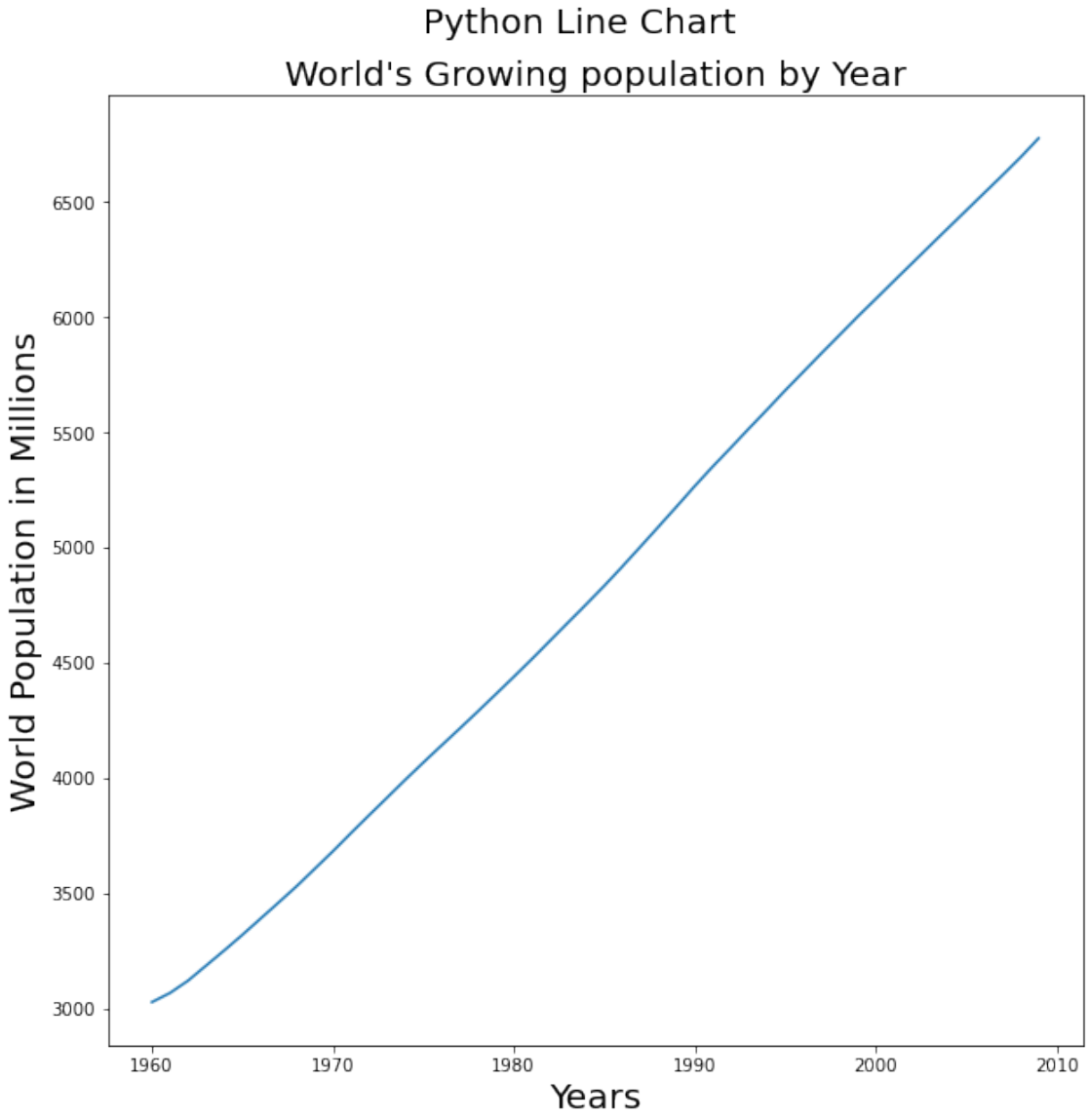
[3]:
```
##### display firt 5 records
world_population_df.head(5)
```

[3]:

	Year	Population
0	1960	3028.654024
1	1961	3068.356747
2	1962	3121.963107
3	1963	3187.471383
4	1964	3253.112403

[4]:
```
# plot line chart in python
plt.figure(figsize=(10,10))
plt.plot(world_population_df['Year'], world_population_df['Population'])
plt.ylabel('World Population in Millions', fontsize=20)
subtitle_string = "World's Growing population by Year"
title_string = 'Python Line Chart'
plt.xlabel('Years', fontsize=20)
plt.suptitle(title_string, y=0.95, fontsize=20)
```

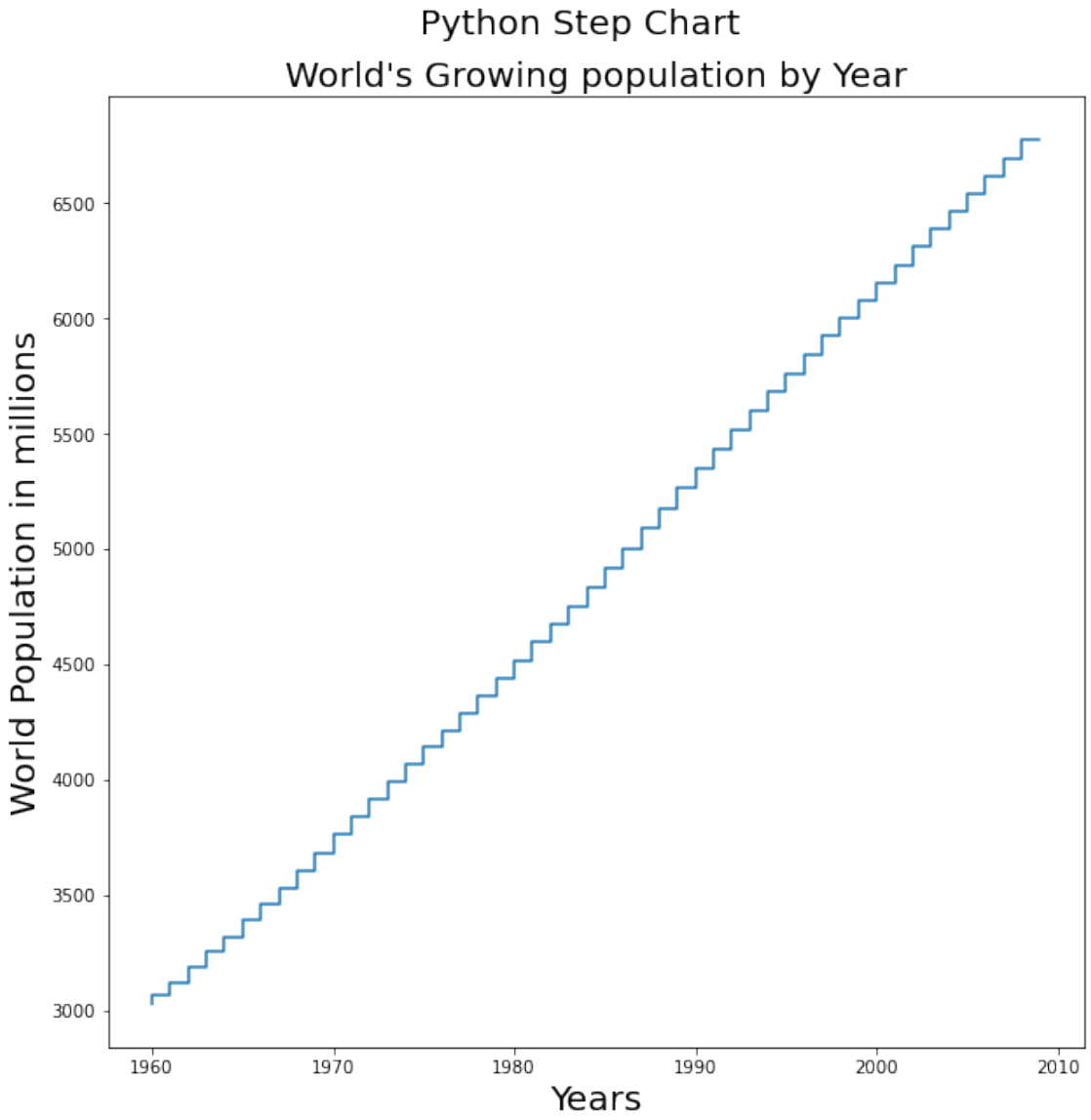
```
plt.title(subtitle_string, fontsize=20)
#plt.grid(True)
plt.show()
```



[5]:
```
# plot Step chart in python

# plot line chart in python
plt.figure(figsize=(10,10))
plt.step(world_population_df['Year'], world_population_df['Population'])
plt.ylabel('World Population in millions', fontsize=20)
subtitle_string = "World's Growing population by Year"
```

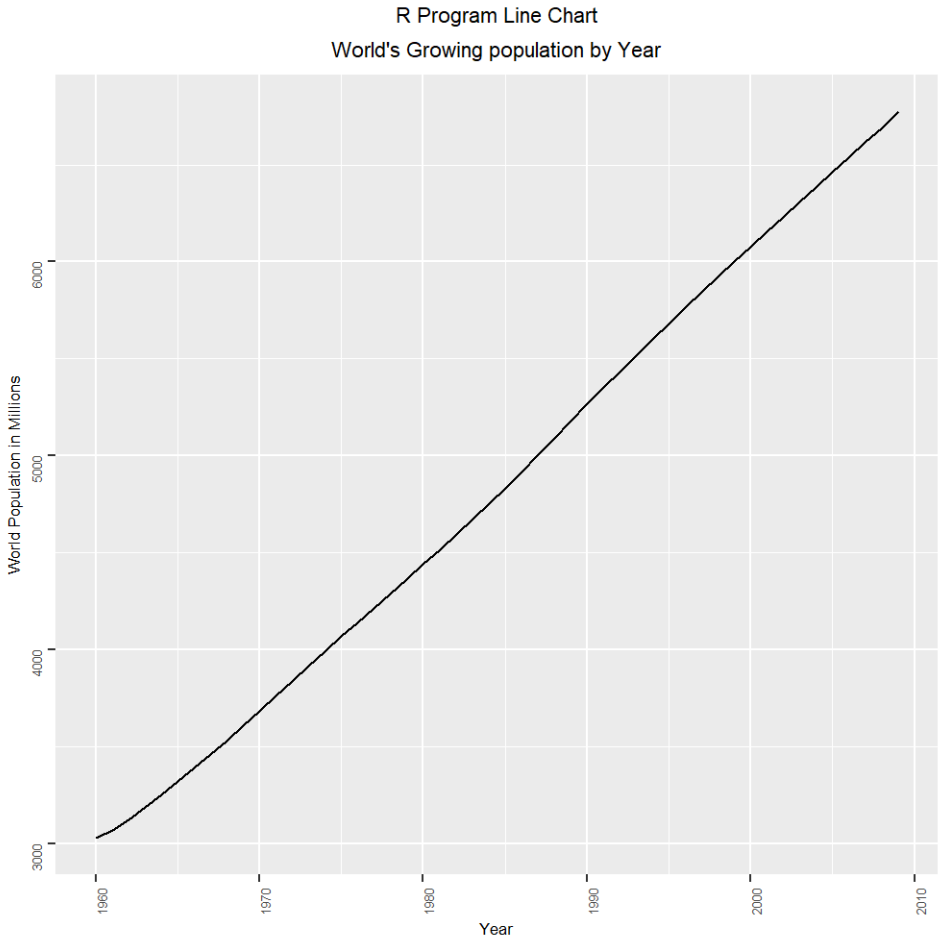
```
title_string = 'Python Step Chart'
plt.xlabel('Years', fontsize=20)
plt.suptitle(title_string, y=0.95, fontsize=20)
plt.title(subtitle_string, fontsize=20)
#plt.grid(True)
plt.show()
```



[6]:
```
%load_ext rpy2.ipython
```

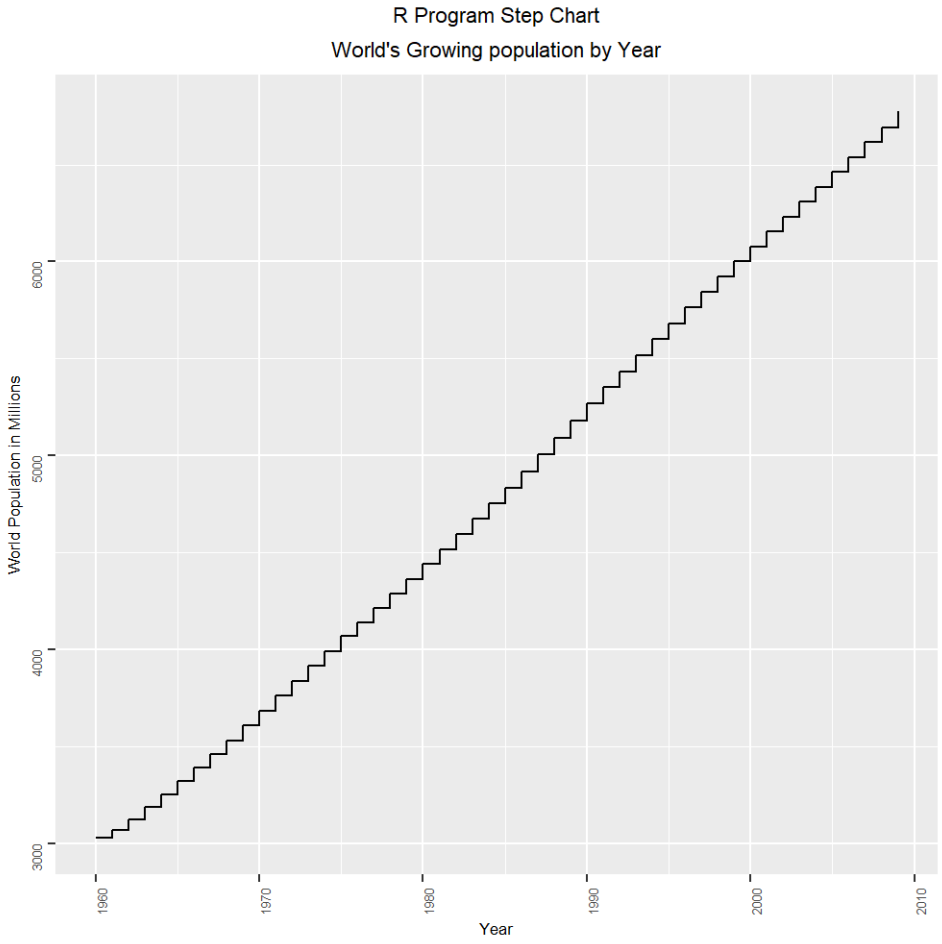
```
C:\Users\21313711\Anaconda3\lib\site-packages\rpy2\robjects\packages.py:366:
UserWarning: The symbol 'quartz' is not in this R namespace/package.
  warnings.warn(
```

[9]:
```
%%R -i world_population_df -w 5 -h 5 --units in -r 200
# import df from global environment
# make default figure size 5 by 5 inches with 200 dpi resolution
#install.packages("ggplot2", repos='http://cran.us.r-project.org', quiet=TRUE)
library(ggplot2)
ggplot(world_population_df, aes(x=Year, y=Population)) +  geom_line() +
  labs(title = "R Program Line Chart", subtitle = "World's Growing population␣
↪by Year", x = "Year", y = "World Population in Millions") + theme(plot.title␣
↪= element_text(hjust = 0.5, size = 8), plot.subtitle = element_text(hjust =␣
↪0.5, size = 8), text = element_text(size=6), axis.text.x=␣
↪element_text(angle=90, hjust=1), axis.text.y= element_text(angle=90,␣
↪hjust=1))
```



[8]:
```
%%R -i world_population_df -w 5 -h 5 --units in -r 200
# import df from global environment
# make default figure size 5 by 5 inches with 200 dpi resolution
#install.packages("ggplot2", repos='http://cran.us.r-project.org', quiet=TRUE)
```

```
library(ggplot2)
ggplot(world_population_df, aes(x=Year, y=Population)) +  geom_step() +
  labs(title = "R Program Step Chart", subtitle = "World's Growing population␣
↪by Year", x = "Year", y = "World Population in Millions") + theme(plot.title␣
↪= element_text(hjust = 0.5, size = 8), plot.subtitle = element_text(hjust =␣
↪0.5, size = 8), text = element_text(size=6), axis.text.x=␣
↪element_text(angle=90, hjust=1), axis.text.y= element_text(angle=90,␣
↪hjust=1))
```



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