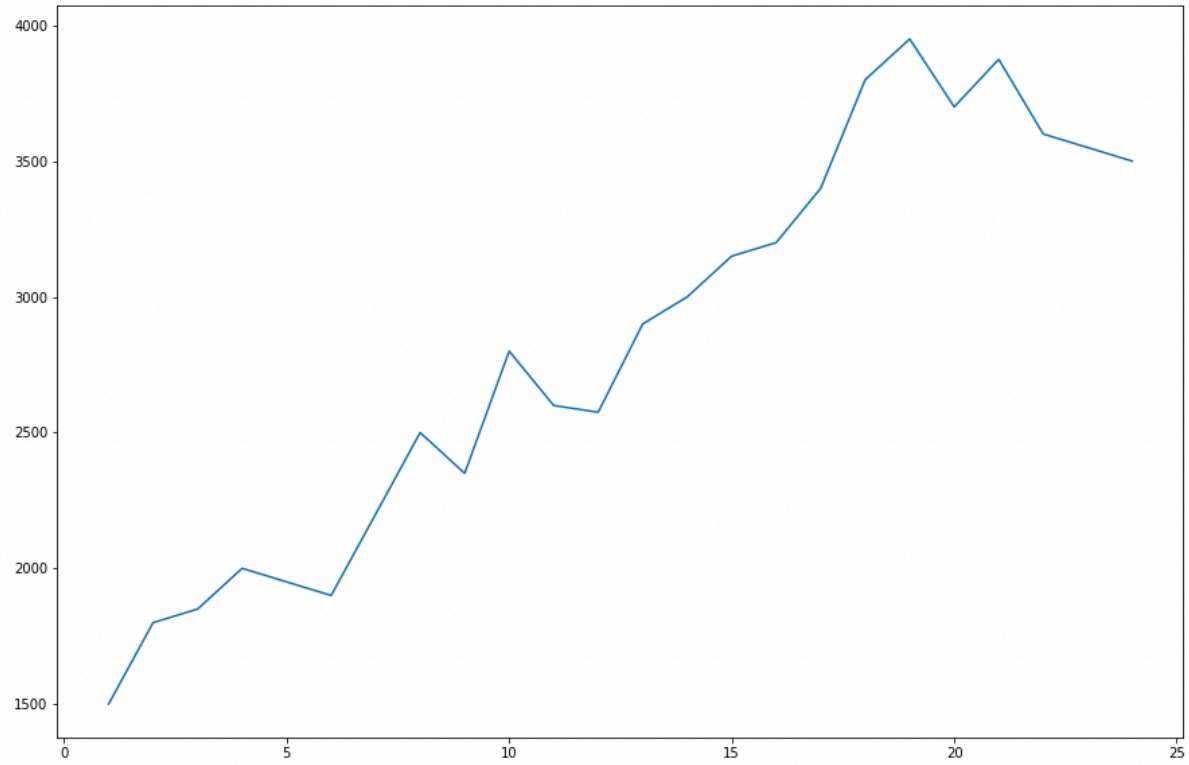
Plotting time series data

Task #1

- Here, the x axis represent the time in months, and y-axis represent the stock price of a company. On x-axis, you can print numbers ranging from 1 to 24 to represent the months that capture the last 2 years of the stock-data.
- Consider at least 24 data points (stock prices of each month for an organisation over the last 2 years).



Code:

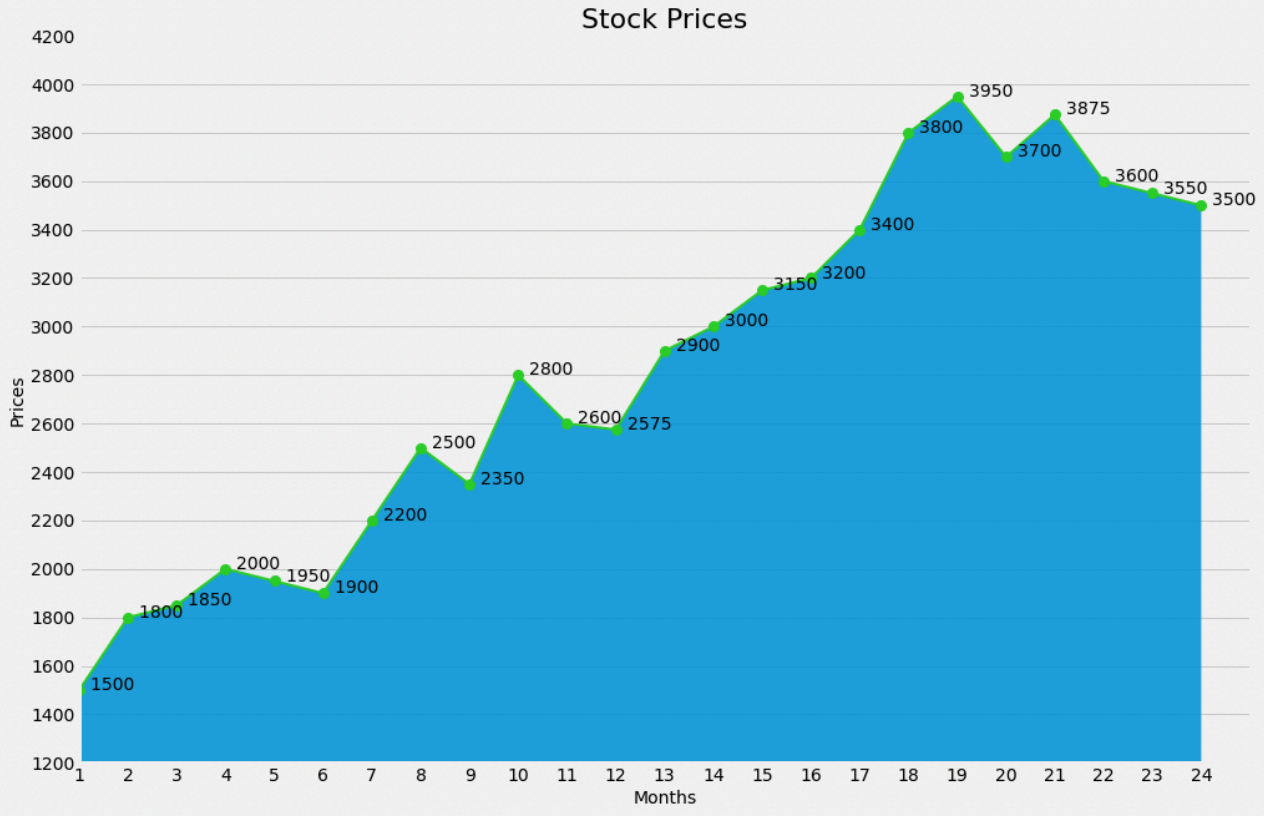
```
import pandas as pd
import matplotlib.pyplot as plt

ds = pd.read_csv("stock_data.csv")
month = ds["month"]
price = ds["price"]
plt.plot(month, price)
```

Task #2

Add the following features to your plot:

1. Formatting : marker, markersize, color, linestyle, and linewidth
2. xlabel, ylabel, title, and text for at-least 10 data-points
3. display the grid, xticks, yticks, and set the xlim and ylim appropriately.



Code:

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt


ds = pd.read_csv("stock_data.csv")
print(ds)

month = ds["month"]
price = ds["price"]

# https://matplotlib.org/stable/tutorials/introductory/
customizing.html
plt.style.use(["fivethirtyeight"])

plt.plot(
    month,
    price,
    marker="o",
    markersize=8,
    color="limegreen",
    linestyle="solid",
    linewidth=2,
)
plt.xlabel("Months", size=14)
plt.ylabel("Prices", size=14)
plt.title("Stock Prices", size=22)

for index in range(len(price)):
    plt.text(month[index], price[index], f"  {price[index]}")

plt.xticks(np.arange(1, 25, step=1))
plt.yticks(np.arange(1200, 4500, step=200))

plt.xlim(1, 25)
plt.ylim(1200, 4200)

plt.fill_between(month, price, alpha=0.8)

plt.grid(axis="x")
```

Data Points

	month	price
0	1	1500
1	2	1800
2	3	1850
3	4	2000
4	5	1950
5	6	1900
6	7	2200
7	8	2500
8	9	2350
9	10	2800
10	11	2600
11	12	2575
12	13	2900
13	14	3000
14	15	3150
15	16	3200
16	17	3400
17	18	3800
18	19	3950
19	20	3700
20	21	3875
21	22	3600
22	23	3550
23	24	3500