

## Tutorial Week 4: Matplotlib for Visualization (Questions)

[Click to download the Jupyter Notebook files \(.ipynb\)](#)

### Example: Read total sale units for all months and show it using a line plot

Total sale units data provided for each month, generated a line plot as shown at the end of this question (directly below the code cell).

Hint:

- The data are available in the files [company\\_sales\\_data.csv](#).
- Use `plt.plot()`.

```
[1]: import pandas as pd
import matplotlib.pyplot as plt

df = pd.read_csv("company_sales_data.csv")
df.head(5)
```

```
[1]:  month_number  facecream  facewash  toothpaste  bathingsoap  shampoo  \
0           1         2500        1500         5200         9200        1200
1           2         2630        1200         5100         6100        2100
2           3         2140        1340         4550         9550       3550
3           4         3400        1130         5870         8870       1870
4           5         3600        1740         4560         7760       1560

      moisturizer  total_units
0           1500         21100
1           1200         18330
2           1340         22470
3           1130         22270
4           1740         20960
```

```
[2]: ### Start your code here ###

plt.plot(df['month_number'], df['total_units'])
plt.xlabel('Month number')
plt.ylabel('Total units')
plt.title('Total units sold per month')

plt.show()

### End your code here ###
```



## 1 Questions

Hint:

- The data are available in the files [company\\_sales\\_data.csv](#).
- Write **your code** between two comment lines: `### Start/End your code here ###`.
- **Expected output** is shown at the end of each question (directly below the code cell).
- See the [Matplotlib gallery](#) that shows hundreds of charts made with Matplotlib.

### 1.1 Read all product sales data and show it using a multiline plot

Display the number of units sold per month for each product using multiline plots (i.e., separate line for each product).

Hint:

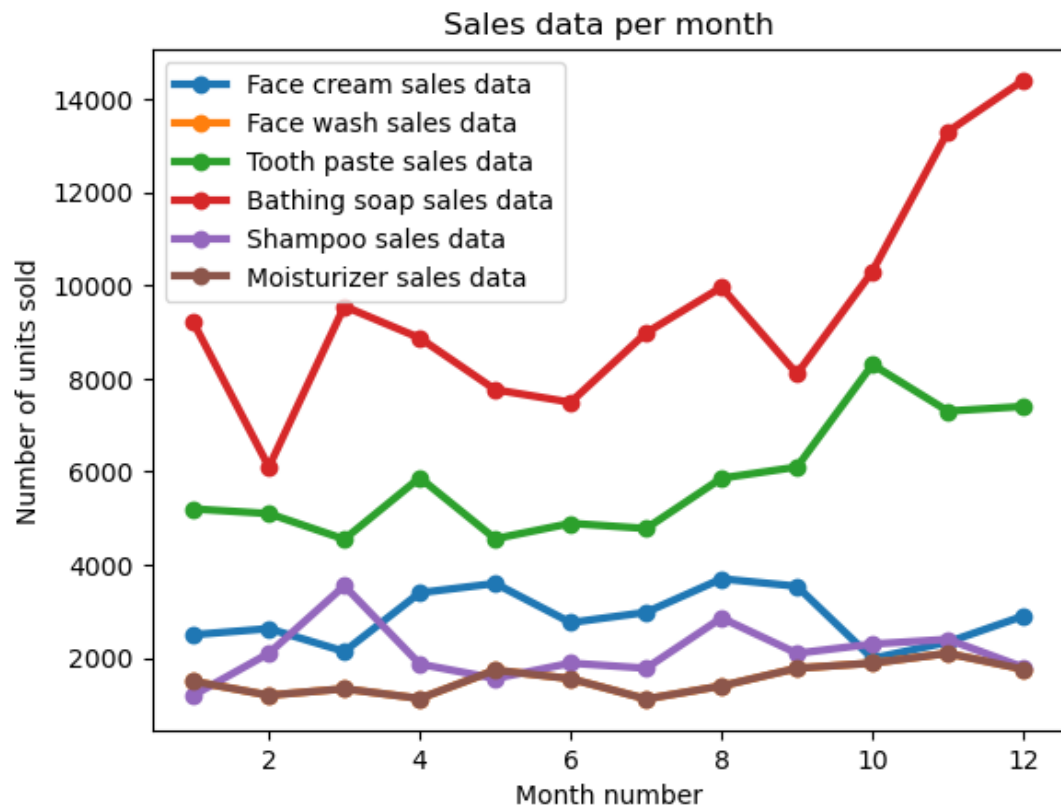
- Use `plt.plot()`.

```
[3]: import pandas as pd
import matplotlib.pyplot as plt

df = pd.read_csv("company_sales_data.csv")

### Start your code here ###
```

```
### End your code here ###
```



## 1.2 Read toothpaste sales data of each month and show it using a scatter plot

Hint:

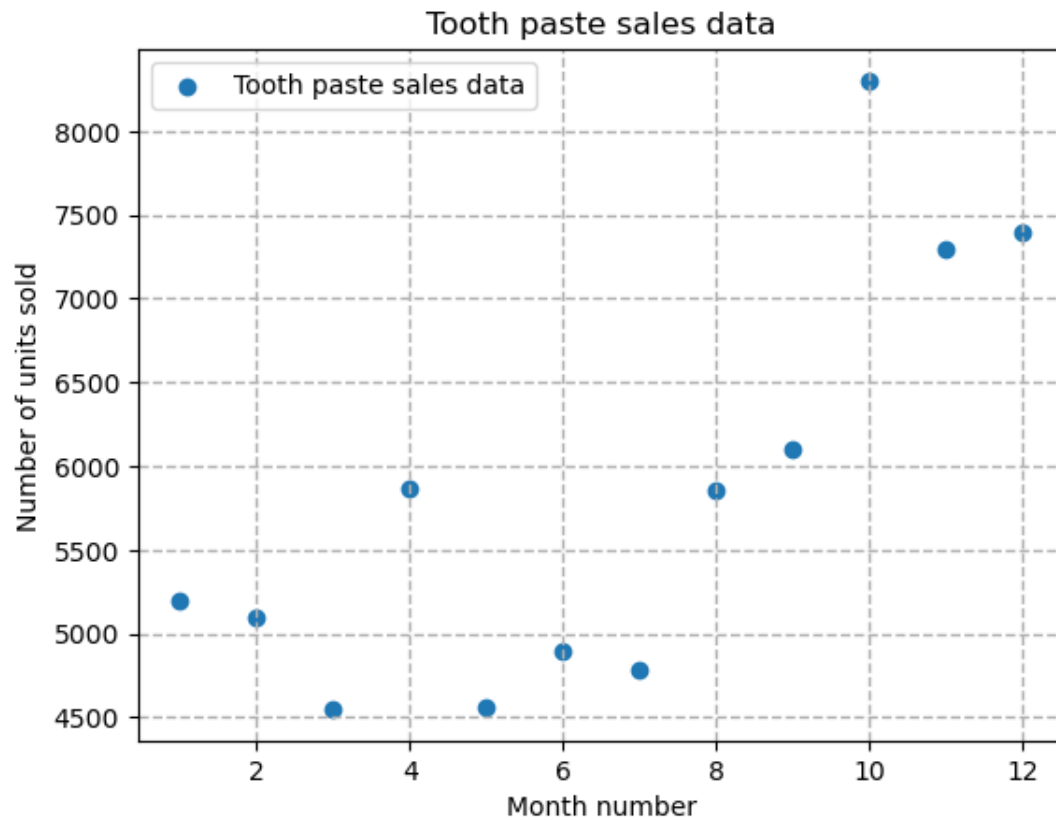
- Use `plt.scatter()`.

```
[4]: import pandas as pd
import matplotlib.pyplot as plt

df = pd.read_csv("company_sales_data.csv")

### Start your code here ###

### End your code here ###
```



### 1.3 Read face cream and face wash product sales data and show it using the bar chart

Hint:

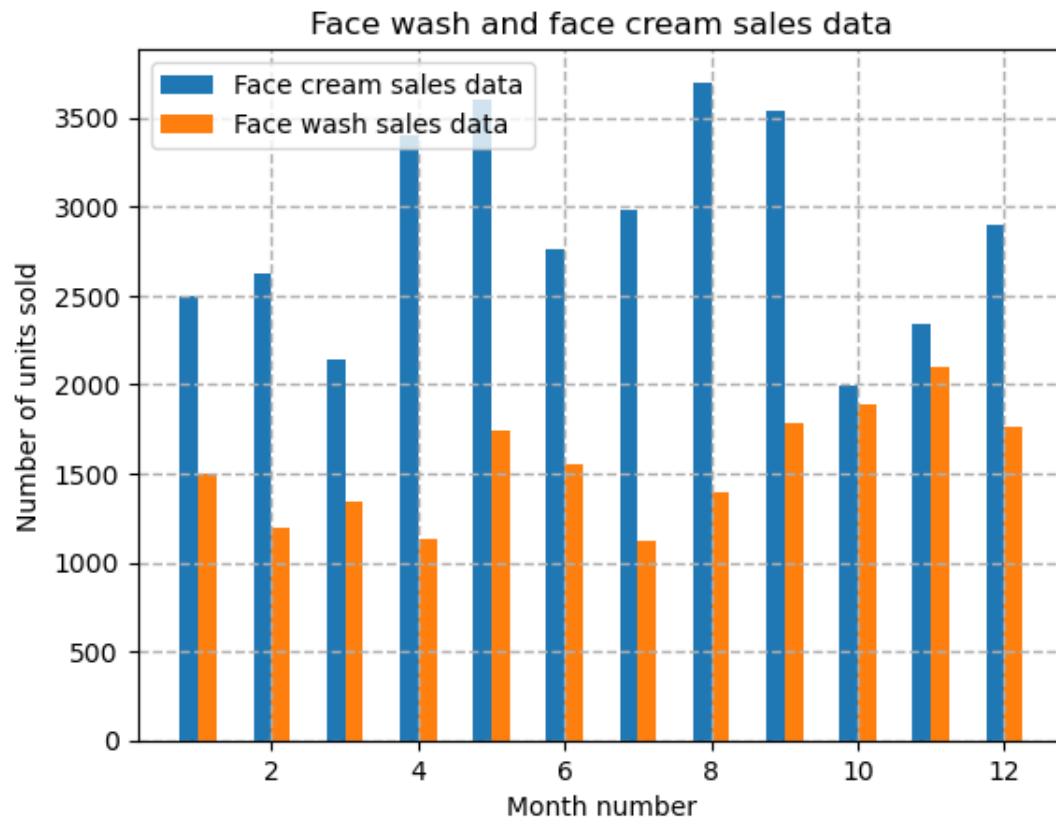
- Use `plt.bar()`.

```
[5]: import pandas as pd
import matplotlib.pyplot as plt

df = pd.read_csv("company_sales_data.csv")

### Start your code here ###

### End your code here ###
```



#### 1.4 Calculate total sale data for the whole year for each product and show it using a Pie chart

The Pie chart displays number of units sold per year for each product in percentage.

Hint:

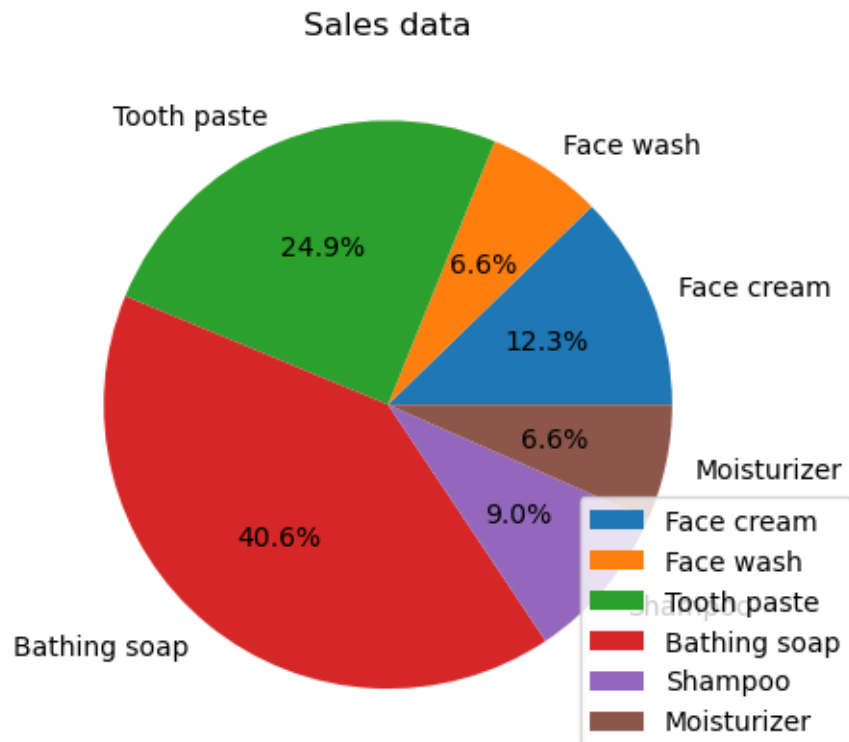
- Use `plt.pie()`.

```
[6]: import pandas as pd
import matplotlib.pyplot as plt

df = pd.read_csv("company_sales_data.csv")

### Start your code here ###

### End your code here ###
```



### 1.5 Read the data of bathing soap and face wash and display them in separate subplots

Hint:

- Use `plt.subplots()`.

```
[7]: import pandas as pd
import matplotlib.pyplot as plt

df = pd.read_csv("company_sales_data.csv")

### Start your code here ###

### End your code here ###
```

