

# assignment-2

September 11, 2024

Imports

```
[39]: import matplotlib.pyplot as plt
import numpy as np
```

## 1 Part one

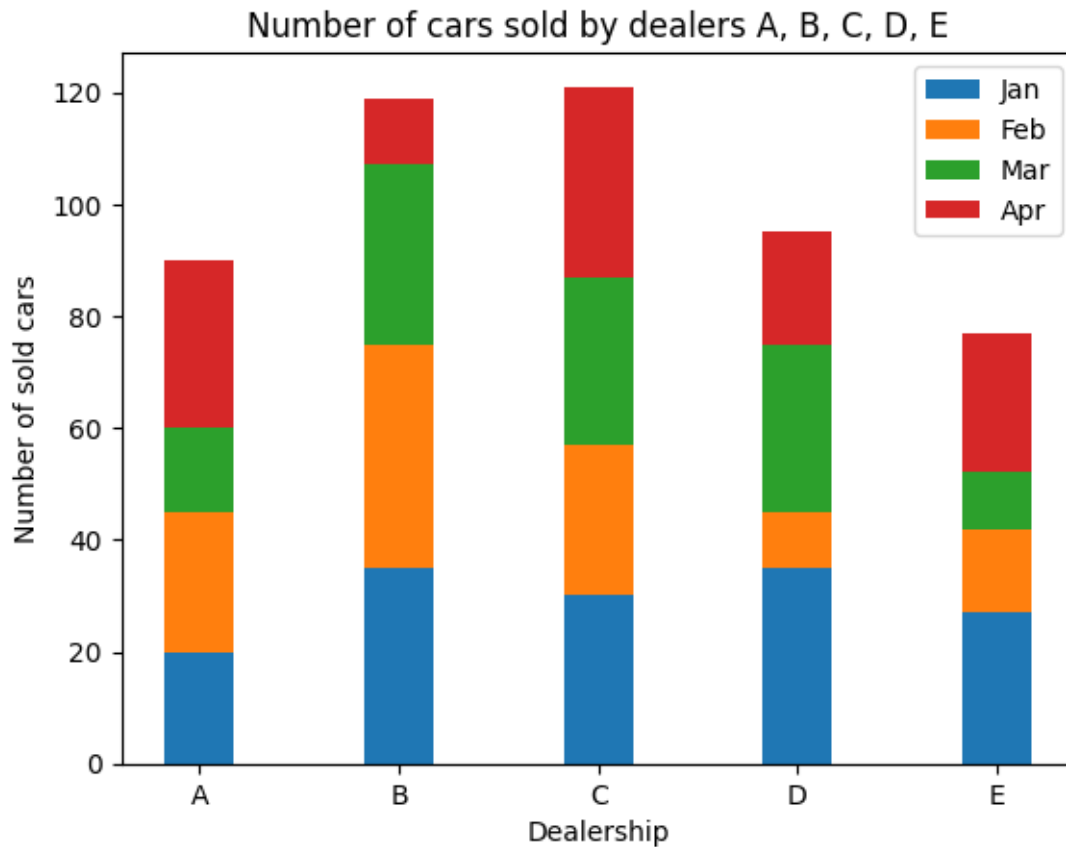
```
[40]: labels = ['A', 'B', 'C', 'D', 'E']
Jan = [20, 35, 30, 35, 27]
Feb = [25, 40, 27, 10, 15]
Mar = [15, 32, 30, 30, 10]
Apr = [30, 12, 34, 20, 25]
width = 0.35
```

```
[49]: fig, ax = plt.subplots()
indicies = np.arange(len(labels))

jan_bars = ax.bar(indicies, Jan, width, label='Jan', color='C0')
feb_bars = ax.bar(indicies, Feb, width, bottom=Jan, label='Feb', color='C1')
mar_bars = ax.bar(indicies, Mar, width, bottom=np.array(Jan) + np.array(Feb),
    ↪label='Mar', color='C2')
apr_bars = ax.bar(indicies, Apr, width, bottom=np.array(Jan) + np.array(Feb) +
    ↪np.array(Mar), label='Apr', color='C3')

ax.set_title('Number of cars sold by dealers A, B, C, D, E')
ax.set_xlabel('Dealership')
ax.set_ylabel('Number of sold cars')
ax.set_xticks(indicies)
ax.set_xticklabels(labels)
ax.legend()
```

```
[49]: <matplotlib.legend.Legend at 0x1099dc7a0>
```



## 2 Part Two

```
[53]: zdata_group_1 = 15 * np.random.random(100)
xdata_group_1 = np.sin(zdata_group_1) + 0.1 * np.random.randn(100)
ydata_group_1 = np.cos(zdata_group_1) + 0.1 * np.random.randn(100)

zdata_group_2 = [10, 3, 5, 8, 9, 6]
xdata_group_2 = [4, 9, 9, 5, 10, 8]
ydata_group_2 = [5, 5, 2, 10, 5, 3]
```

```
[54]: fig = plt.figure()
ax = fig.add_subplot(111, projection='3d')

ax.scatter(xdata_group_1, ydata_group_1, zdata_group_1, c='green', marker='o',
           label="Group 1")

ax.scatter(xdata_group_2, ydata_group_2, zdata_group_2, c='red', marker='+',
           label="Group 2")
```

```
ax.set_xlabel('X axis')
ax.set_ylabel('Y axis')
ax.set_zlabel('Z axis')
ax.legend()
```

```
plt.show()
```

