

Experiment 5

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

```
In [2]: data = [11, 22, 20, 14, 29, 8, 35, 27, 13, 48, 10, 24, 17]
```

```
In [3]: data
```

```
Out[3]: [11, 22, 20, 14, 29, 8, 35, 27, 13, 48, 10, 24, 17]
```

```
In [4]: df = pd.DataFrame(data)
```

```
In [5]: df
```

```
Out[5]:
```

| | 0 |
|----|----|
| 0 | 11 |
| 1 | 22 |
| 2 | 20 |
| 3 | 14 |
| 4 | 29 |
| 5 | 8 |
| 6 | 35 |
| 7 | 27 |
| 8 | 13 |
| 9 | 48 |
| 10 | 10 |
| 11 | 24 |
| 12 | 17 |

```
In [6]: data_sort = df.sort_values(by = [0])
```

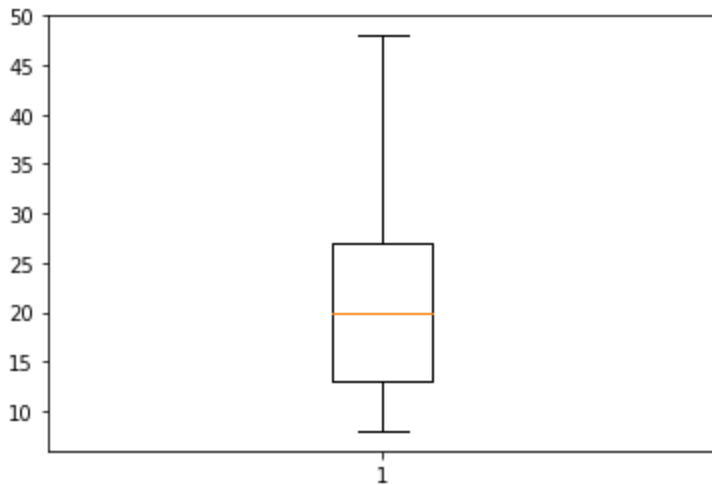
```
In [7]: data_sort
```

```
Out[7]:
```

| | 0 |
|----|----|
| 5 | 8 |
| 10 | 10 |
| 0 | 11 |
| 8 | 13 |
| 3 | 14 |
| 12 | 17 |
| 2 | 20 |
| 1 | 22 |

```
11 24
7 27
4 29
6 35
9 48
```

```
In [8]: plt.boxplot(data_sort)
plt.show()
```



```
In [10]: import os
dir = os.getcwd()
filename = dir + "../assets/csv/tips.csv"
tips = pd.read_csv(filename)
```

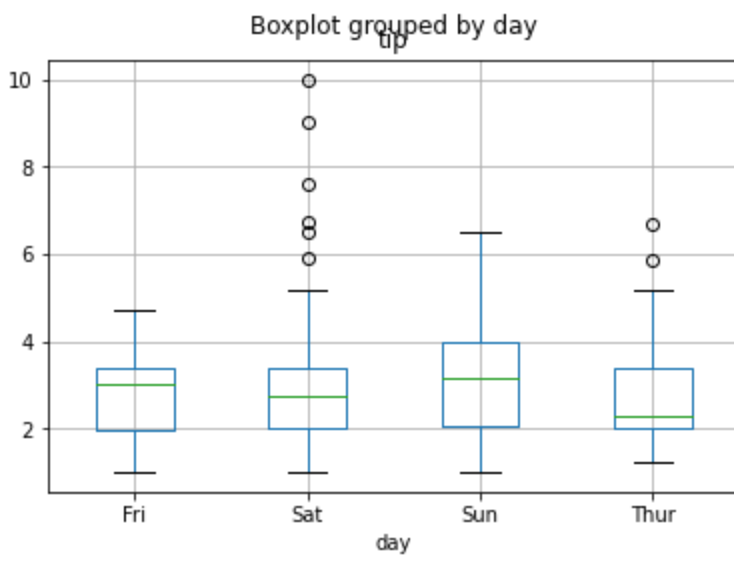
```
In [11]: tips.head()
```

```
Out[11]:
```

| | total_bill | tip | sex | smoker | day | time | size |
|---|------------|------|--------|--------|-----|--------|------|
| 0 | 16.99 | 1.01 | Female | No | Sun | Dinner | 2 |
| 1 | 10.34 | 1.66 | Male | No | Sun | Dinner | 3 |
| 2 | 21.01 | 3.50 | Male | No | Sun | Dinner | 3 |
| 3 | 23.68 | 3.31 | Male | No | Sun | Dinner | 2 |
| 4 | 24.59 | 3.61 | Female | No | Sun | Dinner | 4 |

```
In [12]: tips.boxplot(by='day', column=['tip'])
```

```
Out[12]: <AxesSubplot: title={'center': 'tip'}, xlabel='day'>
```



In []: