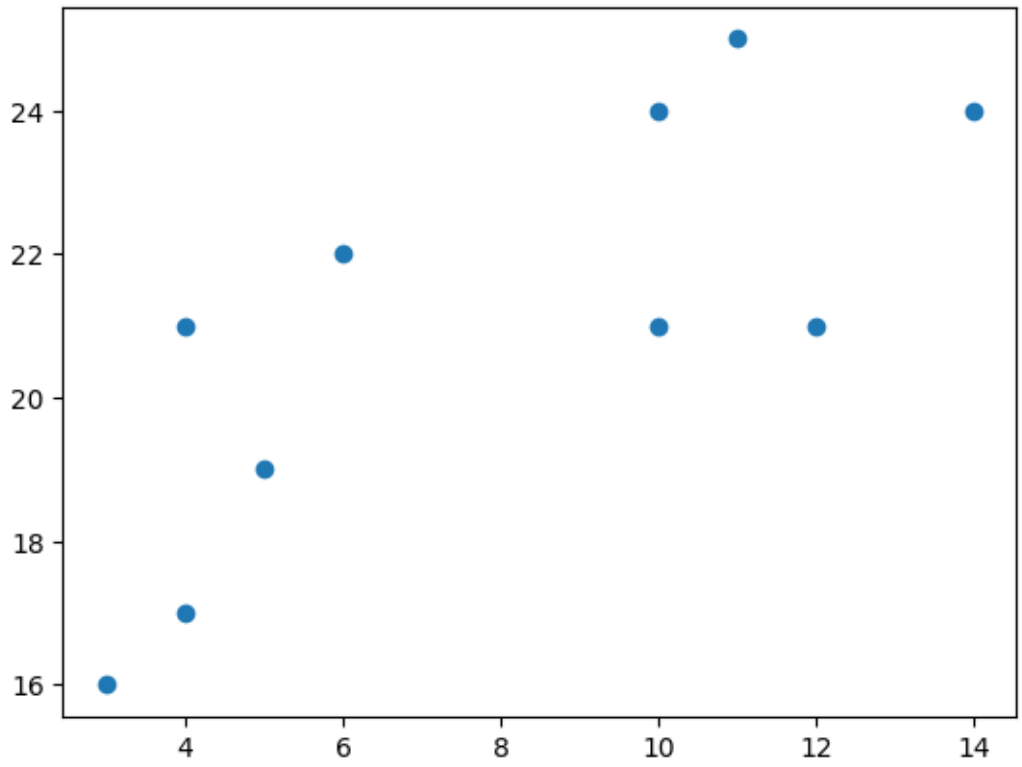
k-means-final-2

April 14, 2025

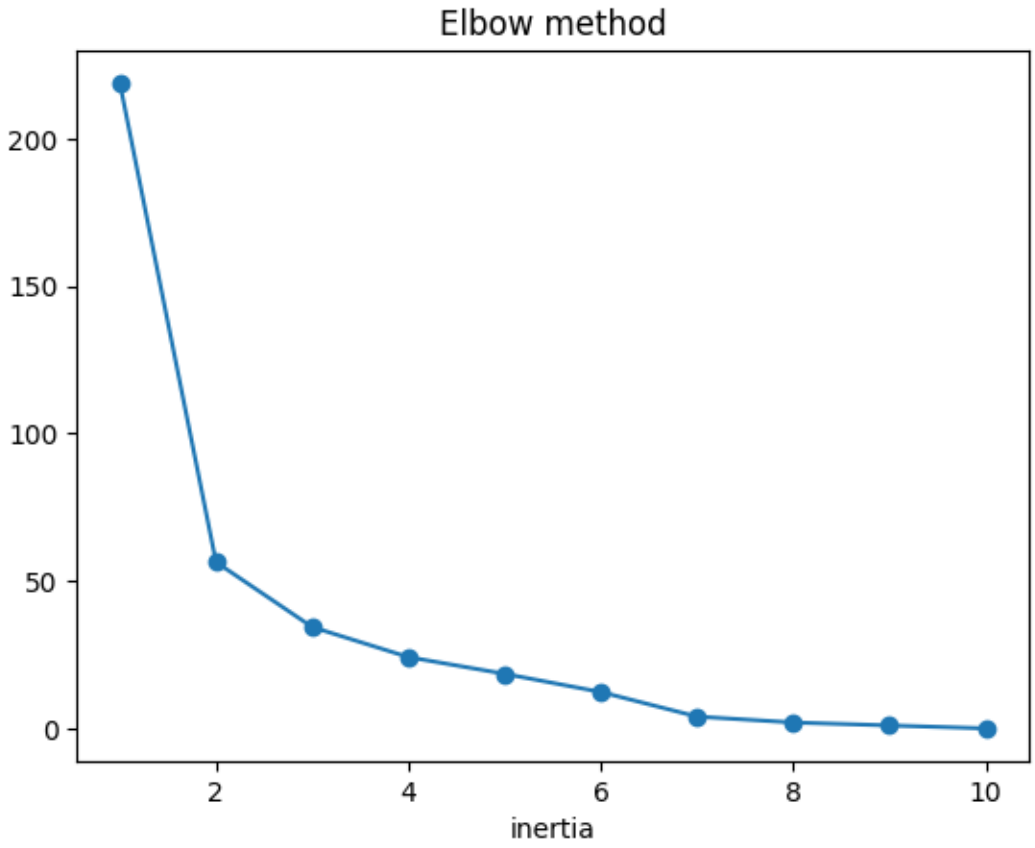
[1]:
```
import matplotlib.pyplot as plt
x = [4, 5, 10, 4, 3, 11, 14 , 6, 10, 12]
y = [21, 19, 24, 17, 16, 25, 24, 22, 21, 21]
plt.scatter(x, y)
plt.show()
```



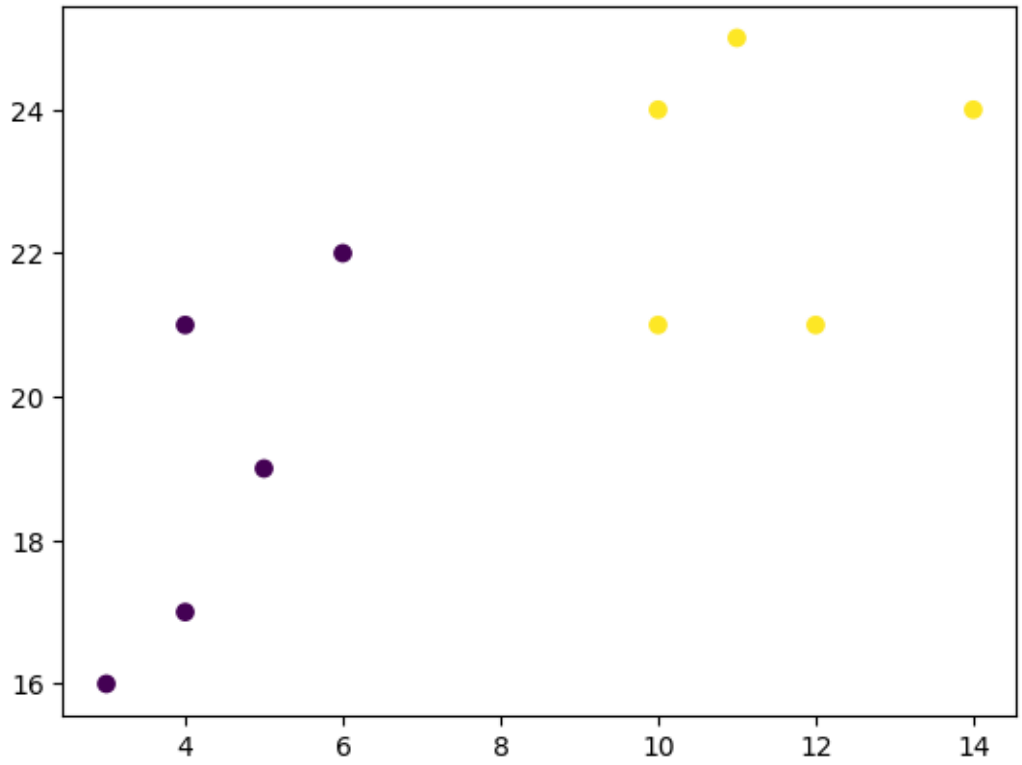
[2]:
```
from sklearn.cluster import KMeans

data = list(zip(x, y))
inertias = []

for i in range(1,11):
```

```
  kmeans = KMeans(n_clusters = i)
  kmeans.fit(data)
  inertias.append(kmeans.inertia_)

plt.plot(range(1,11), inertias, marker = 'o')
plt.title('Elbow method')
plt.xlabel('inertia')
plt.show
```

[2]:
```
<function matplotlib.pyplot.show(close=None, block=None)>
```



[3]:
```
kmeans = KMeans(n_clusters=2)
kmeans.fit(data)

plt.scatter(x, y, c=kmeans.labels_)
plt.show()
```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