```
import matplotlib.pyplot as plt
x1=[1, 2, 2, 3, 4, 5]
x2=[1, 1, 3, 2, 3, 5]
plt.scatter(x1, x2)
plt.show()
₹
      5.0
      4.5
      4.0
      3.5
      3.0
      2.5
      2.0
      1.5
      1.0
            1.0
                    1.5
                            2.0
                                   2.5
                                           3.0
                                                   3.5
                                                          4.0
                                                                  4.5
                                                                          5.0
from sklearn.cluster import KMeans
data=list(zip(x1, x2))
inertias=[]
for i in range(1, 6):
    kmeans=KMeans(n_clusters=i)
    kmeans.fit(data)
    inertias.append(kmeans.inertia_)
plt.plot(range(1, 6), inertias, marker='o')
plt.title('Elbow Method')
plt.xlabel('Number of Clusters')
plt.ylabel('Inertia')
plt.show()
<del>_</del>
                                       Elbow Method
         20
         15
      Inertia
10
          5
```

kmeans=KMeans(n_clusters=2)
kmeans.fit(data)

1.0

1.5

2.0

2.5

3.0

Number of Clusters

3.5

0

4.0

4.5

5.0

plt.scatter(x1, x2, c=kmeans.labels_)
plt.show()

