

DAY – 8

[12.02.2025]

Exp : 31-35

The screenshot shows a Jupyter Notebook titled 'Untitled0.ipynb'. The interface includes a top bar with the Colab logo, file name, and a menu (File, Edit, View, Insert, Runtime, Tools, Help). Below the menu is a search bar and buttons for 'Commands', '+ Code', '+ Text', and 'Run all'. On the left is a sidebar with icons for a menu, search, expand/collapse, view, key, folder, and table. The main area contains two code cells. The first cell, labeled [26], imports numpy and KNeighborsClassifier, defines data X and y, fits the model with 3 neighbors, and prints the accuracy, which is 1.0. The second cell, labeled [27], imports numpy and KMeans, defines data X, fits the model with 2 clusters, and prints the segments, which are [0 1 0 1].

```
[26] ✓ 0s ▶ import numpy as np
from sklearn.neighbors import KNeighborsClassifier
from sklearn.metrics import accuracy_score
X = np.array([[25,120],[45,140],[30,130],[50,150]])
y = np.array([1,0,1,0])
m = KNeighborsClassifier(3).fit(X,y)
p = m.predict(X)
print("Accuracy:", accuracy_score(y,p))

... Accuracy: 1.0
```

```
[27] ✓ 0s ▶ import numpy as np
from sklearn.cluster import KMeans
X = np.array([[500,5],[700,7],[200,2],[900,9]])
model = KMeans(2, random_state=0).fit(X)
print("Segments:", model.labels_)

... Segments: [0 1 0 1]
```



Untitled0.ipynb ☆ ☁

File Edit View Insert Runtime Tools Help

🔍 Commands + Code ▾ + Text ▶ Run all ▾



[23]



```
import numpy as np
from sklearn.cluster import KMeans
X = np.array([[200,2],[300,3],[800,8],[900,9],[400,4]])
model = KMeans(n_clusters=2, random_state=0).fit(X)
print("Customer Segments:", model.labels_)
```



... Customer Segments: [1 1 0 0 1]

[24]

```
import numpy as np
from sklearn.linear_model import LinearRegression
from sklearn.metrics import r2_score
X = np.array([[800],[1000],[1200],[1500]]); y = np.array([40,50,60,75])
m = LinearRegression().fit(X,y)
p = m.predict(X)
print("R2 Score:", r2_score(y,p))
```



R2 Score: 1.0

[25]

✓ 0s

```
import numpy as np
from sklearn.linear_model import LinearRegression
X = np.array([[1000,100],[1500,120],[2000,150]])
y = np.array([5,7,10])
model = LinearRegression().fit(X,y)
print("Predicted Price:", model.predict([[1600,130]])[0])
```



Predicted Price: 7.999999999999999