K Means Clustering

# Creating random data and plotting it

import matplotlib.pyplot as plt  
from sklearn.datasets import make\_blobs  
  
data = make\_blobs(n\_samples=1000,n\_features=2,centers=4,cluster\_std=1.8,random\_state=101)  
plt.scatter(data[0][:,0],data[0][:,1],c=data[1],cmap="rainbow")

# Creating model and fitting data to it

from sklearn.cluster import KMeans  
kmeaans = KMeans(n\_clusters=4)  
kmeaans.fit(data[0])  
print(kmeaans.cluster\_centers\_)

# Comparing predicted values and original values using plots

fig,(ax1,ax2) = plt.subplots(nrows=1,ncols=2,sharey=True,figsize = (10,6))  
ax1.set\_title("K Means Prediction")  
ax1.scatter(data[0][:,0],data[0][:,1],c=kmeaans.labels\_,cmap="rainbow")  
ax1.scatter(kmeaans.cluster\_centers\_[:,0],kmeaans.cluster\_centers\_[:,1],marker="\*",s=150)  
  
ax2.set\_title("Original Data")  
ax2.scatter(data[0][:,0],data[0][:,1],c=data[1],cmap="rainbow")  
  
plt.show()