U18CSI6203-DATA WAREHOUSING AND DATA MINING

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K Means Clustering:

For the given 2- dimensional dataset, apply K-means clustering to cluster the dataset into 2 clusters. Plot the graph and display the result.

Code:

```
from pandas import DataFrame
import matplotlib.pyplot as plt
from sklearn.cluster import KMeans

Data = {'x': [25,34,22,27,33,33,31,22,35,34,67,54,57,43,50,57,59,52,65,47,49,48,35,33,44,45,38,43,51,46],
        'y': [79,51,53,78,59,74,73,57,69,75,51,32,40,47,53,36,35,58,59,50,25,20,14,12,20,5,29,27,8,7]
       }

df = DataFrame(Data,columns=['x','y'])
kmeans = KMeans(n_clusters=2).fit(df)
centroids = kmeans.cluster_centers_
print(centroids)
plt.scatter(df['x'], df['y'], c= kmeans.labels_.astype(float), s=50, alpha=0.5)
plt.scatter(centroids[:, 0], centroids[:, 1], c='red', s=50)
plt.show()
```

Code - click here

Output:

```
[[47.07142857 22.14285714]
 [38.75       61.625     ]]
```