```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from sklearn.datasets import make_blobs
from sklearn.neighbors import KNeighborsClassifier
from sklearn.model_selection import train_test_split
X, y = make_blobs(n_samples = 500, n_features = 2, centers =4,cluster_std = 1.5, random_state = 4)
plt.style.use('seaborn')
plt.figure(figsize = (10,10))
plt.scatter(X[:,0], X[:,1], c=y, marker= '*',s=100,edgecolors='black')
plt.show()
```

```
<ipython-input-2-fc5228a43145>:8: MatplotlibDeprecationWarning: The seaborn styles sh
  plt.style.use('seaborn')
```
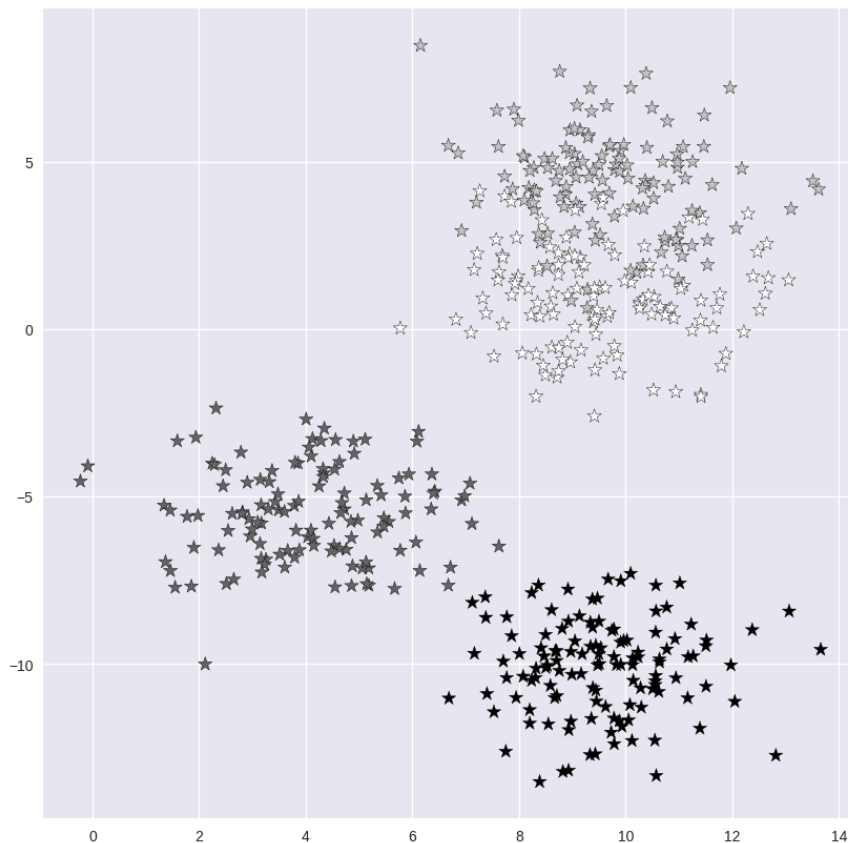


```
X_train, X_test, y_train, y_test = train_test_split(X, y, random_state= 0)
knn5 = KNeighborsClassifier(n_neighbors = 5)
knn1 = KNeighborsClassifier(n_neighbors=1)
knn5.fit(X_train, y_train)
knn1.fit(X_train, y_train)
y_pred_5 = knn5.predict(X_test)
y_pred_1 = knn1.predict(X_test)
from sklearn.metrics import accuracy_score
print("Accuracy with k=5", accuracy_score(y_test, y_pred_5)*100)
print("Accuracy with k=1", accuracy_score(y_test, y_pred_1)*100)
```

```
Accuracy with k=5 93.60000000000001
Accuracy with k=1 90.4
```

```
plt.figure(figsize = (15,5))
plt.subplot(1,2,1)
plt.scatter(X_test[:,0], X_test[:,1], c=y_pred_5, marker= '*',
s=100,edgecolors='black')
plt.title("Predicted values with k=5", fontsize=20)
plt.subplot(1,2,2)
plt.scatter(X_test[:,0], X_test[:,1], c=y_pred_1, marker= '*',
s=100,edgecolors='black')
plt.title("Predicted values with k=1", fontsize=20)
plt.show()
```