knn-algorithm-1

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0.5 Project Title :

0.5.1 Make the prediction for "iris.csv" using KNN algorithm of Machine Learning, to find the value of K for Supervised Learning Clustering.

[ ]:
```
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
from sklearn.metrics import accuracy_score
```

[ ]:
```
# Load the Iris dataset
iris = load_iris()
X = iris.data
y = iris.target
```

[ ]:
```
# Split the dataset into training and testing sets
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,␣
↪random_state=42)
```

[ ]:
```
# Create a kNN classifier with k=3
k = 3
knn_classifier = KNeighborsClassifier(n_neighbors=k)
```

[ ]:
```
# Train the classifier on the training data
knn_classifier.fit(X_train, y_train)
```

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```
KNeighborsClassifier(n_neighbors=3)
```

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```
# Make predictions on the test data
y_pred = knn_classifier.predict(X_test)
```

[ ]:
```
# Calculate accuracy
accuracy = accuracy_score(y_test, y_pred)
print(f"Accuracy: {accuracy:.2f}")
```

```
Accuracy: 1.00
```