

# sl-knn-algorithm

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## 0.1 project title

Make the prediction for “iris.csv” using KNN algorithm of machine learning, to find the value of K for supervised learning clustering

STEPS TO WRITE THE KNN 1. load the data 2. loading the data with the sklearn 3. split the data train\_test\_split 4. applying classifier 5. fitting the model 6. predict the model values 7. check your accuracy

if value of  $k = 2$  means clustering called as by linear clustering

```
[2]: 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
```

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

```
[4]: # 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)
```

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

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

```
[6]: KNeighborsClassifier(n_neighbors=3)
```

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

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

Accuracy: 1.00

## 0.2 conclusion

if k=3 succesfully implemented

```
[8]:
```

```
[8]:
```