

```
In [1]: from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
import numpy as np
data = load_iris()
X = data.data
y = data.target
print(len(X))
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150

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In [2]: X_train, X_test, y_train, y_test = train_test_split(X,y,test_size=0.2)
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In [3]: print(len(X_train), len(X_test),)
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120 30

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In [4]: X_train, X_validate, y_train, y_validate = train_test_split(X_train,y_train,test_size=0.2)
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In [5]: print(len(X_train),len(X_validate),len(X_test))
```

96 24 30

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In [6]: from sklearn.neighbors import KNeighborsClassifier as KNN
from sklearn.metrics import accuracy_score
import warnings
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warnings.simplefilter(action='ignore', category=FutureWarning)
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Changing the values of K to [3,5,7,6]

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In [7]: k = [3,5,7,6]
for each in k:
    model =KNN(n_neighbors=each)
    model.fit(X_train,y_train)
    predictions = model.predict(X_validate)
    accuracy = accuracy_score(predictions,y_validate)
    accuracy_percentage = accuracy * 100
    print(f"Accuracy is {accuracy_percentage:2f} % when K is {each}")
```

Accuracy is 87.500000 % when K is 3
Accuracy is 87.500000 % when K is 5
Accuracy is 95.833333 % when K is 7
Accuracy is 95.833333 % when K is 6

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In [ ]:
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