In [42]:
```
import pandas as pd
import numpy as np
import pandas as pd
from sklearn.datasets import load_breast_cancer
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import accuracy_score, classification_report
```

In [54]:
```
from sklearn.datasets import load_breast_cancer
data = load_breast_cancer()
X = data.data
y = data.target
```

In [55]:
```
from sklearn.model_selection import train_test_split
```

In [56]:
```
X_train, X_test, y_train, y_test = train_test_split(X,y, test_size=0.2)
```

In [59]:
```
clf = RandomForestClassifier()
```

In [62]:
```
clf.fit(X_train, y_train)
```

Out[62]:

RandomForestClassifier

RandomForestClassifier()

In [63]:
```
y_pred = clf.predict(X_test)
```

In [64]:
```
accuracy = accuracy_score(y_test, y_pred)
print("Accuracy:", accuracy)
```

```
Accuracy: 0.9824561403508771
```

In [67]:
```
class_report = classification_report(y_test, y_pred)
print(class_report)
```

```
              precision    recall  f1-score   support

           0       0.96      1.00      0.98        45
           1       1.00      0.97      0.99        69

    accuracy                           0.98       114
   macro avg       0.98      0.99      0.98       114
weighted avg       0.98      0.98      0.98       114
```

In [1]:
```
import numpy as np
import pandas as pd
from sklearn.neighbors import KNeighborsClassifier
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
from sklearn.cluster import KMeans
```

In [2]:
```
#knn (K-Nearest Neighbors Algorithm)
```

In [3]:
```
from sklearn.datasets import load_iris
iris = load_iris()
X = iris.data
y = iris.target
```

In [4]:
```
1 X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2,random_state=42)
```

In [5]:
```
1 k=3
2 knn_classifier = KNeighborsClassifier(n_neighbors=k)
3 knn_classifier.fit(X_train,y_train)
```

Out[5]:
```
KNeighborsClassifier

KNeighborsClassifier(n_neighbors=3)
```

In [6]:
```
1 y_pred = knn_classifier.predict(X_test)
```

In [7]:
```
1 accuracy = accuracy_score(y_test,y_pred)
2 print(f"Accuracy:{accuracy * 100:.2f}%")
```

```
Accuracy:100.00%
```

In [8]:
```
1 data=pd.read_csv(r"C:\Users\manju\Desktop\iris dataset.csv")
```

In [9]:
```
1 selected_columns = ['sepal_width','sepal_length','petal_length']
2 X=data[selected_columns]
3
```

In [10]:
```
1 X.isnull().sum()
```

Out[10]:
```
sepal_width     0
sepal_length    0
petal_length    0
dtype: int64
```

In [11]:
```
1 K = 3
2 kmeans = KMeans(n_clusters=K, random_state=0)
3 cluster_assignments = kmeans.fit_predict(X_scaled)
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[11], line 3
      1 K = 3
      2 kmeans = KMeans(n_clusters=K, random_state=0)
----> 3 cluster_assignments = kmeans.fit_predict(X_scaled)

NameError: name 'X_scaled' is not defined
```

In [ ]:
```
1
```