import libraries and load dataset

In [ ]:

```
import pandas as pd
df= pd.read_csv('ml_data.csv')
df['gender']= df['gender'].replace("Male", 1)
df['gender']= df['gender'].replace("female", 0)
```

In [ ]:

```
df.head()
```

Out[ ]:

	age	height	weight	gender	likeness
0	27	170.688	76.0	1	Biryani
1	41	165.000	70.0	1	Biryani
2	29	171.000	80.0	1	Biryani
3	27	173.000	102.0	1	Biryani
4	29	164.000	67.0	1	Biryani

In [ ]:

```
X= df[["age", "height"]]
y= df["likeness"]
X.head()
```

Out[ ]:

	age	height
0	27	170.688
1	41	165.000
2	29	171.000
3	27	173.000
4	29	164.000

Model prediction

In [ ]:

```
from sklearn.neighbors import KNeighborsClassifier
model= KNeighborsClassifier(n_neighbors=5)
```

Model training

In [ ]:

```
model.fit(X,y)
```

Out[ ]:

```
KNeighborsClassifier()
```

Predict output

In [ ]:

```
predicted= model.predict([[27, 173]]) # 27:age, 173:height
```

```
predicted
```

```
C:\Users\Javeria\AppData\Local\Programs\Python\Python310\lib\site-packages\sklearn\base.
py:450: UserWarning: X does not have valid feature names, but KNeighborsClassifier was f
itted with feature names
  warnings.warn(
```

Out[ ]:

```
array(['Biryani'], dtype=object)
```

Metrices for evaluation and split the data

In [ ]:

```
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
X_train, X_test, y_train, y_test= train_test_split(X, y, test_size= 0.2) #80% training
```

In [ ]:

```
#create a model
model= KNeighborsClassifier(n_neighbors=6)
```

Sample size (test:30, training:70)

In [ ]:

```
X_train, X_test, y_train, y_test= train_test_split(X, y, test_size= 0.3)
```

Sample size (test:40, training:60)

In [ ]:

```
X_train, X_test, y_train, y_test= train_test_split(X, y, test_size= 0.40)
```

In [ ]:

```
X_train, X_test, y_train, y_test= train_test_split(X, y, train_size= 0.8)
```

In [ ]:

```
# create model
model= KNeighborsClassifier(6)
```

Fit the model using training sets

In [ ]:

```
model.fit(X_train, y_train)
```

Out[ ]:

```
KNeighborsClassifier(n_neighbors=6)
```

Predict accuracy score

In [ ]:

```
predicted_values=model.predict(X_test)
predicted_values
```

Out[ ]:

```
array(['Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Samosa', 'Biryani', 'Biryani', 'Biryani',
       'Biryani'], dtype=object)
```

In [ ]:

```
# checking score
# y_test= actual_values
score= accuracy_score(y_test, predicted_values)
print("The accuracy score for our model is=", score)
```

```
The accuracy score for our model is= 0.7346938775510204
```