

```
import pandas as pd
from sklearn.datasets import load_iris
from sklearn.model_selection import train_test_split
from sklearn.svm import SVC
from sklearn.metrics import accuracy_score, hamming_loss, confusion_matrix
```

```
data = pd.read_csv("/content/gender_classification_v7.csv")
data
```

	long_hair	forehead_width_cm	forehead_height_cm	nose_wide	nose_long	lips_thin	distance_nose_to_lip_long	gender
0	1	11.8	6.1	1	0	1	1	Male
1	0	14.0	5.4	0	0	1	0	Female
2	0	11.8	6.3	1	1	1	1	Male
3	0	14.4	6.1	0	1	1	1	Male
4	1	13.5	5.9	0	0	0	0	Female
...
4996	1	13.6	5.1	0	0	0	0	Female
4997	1	11.9	5.4	0	0	0	0	Female
4998	1	12.9	5.7	0	0	0	0	Female
4999	1	13.2	6.2	0	0	0	0	Female
5000	1	15.4	5.4	1	1	1	1	Male

5001 rows × 8 columns

```
df.head()
```

	long_hair	forehead_width_cm	forehead_height_cm	nose_wide	nose_long	lips_thin	distance_nose_to_lip_long	gender
0	1	11.8	6.1	1	0	1	1	Male
1	0	14.0	5.4	0	0	1	0	Female
2	0	11.8	6.3	1	1	1	1	Male
3	0	14.4	6.1	0	1	1	1	Male
4	1	13.5	5.9	0	0	0	0	Female

```
X = df.drop('gender', axis=1) # input features
Y = df['gender']             # output label
```

```
from sklearn.model_selection import train_test_split

X_train, X_test, Y_train, Y_test = train_test_split(
    X, Y, test_size=0.2, random_state=42
)
```

```
from sklearn.svm import SVC

model = SVC(kernel='linear')
model.fit(X_train, Y_train)
```

▼ SVC ⓘ ?

SVC(kernel='linear')

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

```
from sklearn.metrics import accuracy_score, hamming_loss, confusion_matrix

accuracy = accuracy_score(Y_test, Y_pred)
h_score = 1 - hamming_loss(Y_test, Y_pred)
cm = confusion_matrix(Y_test, Y_pred)

print("Accuracy:", accuracy)
print("Hamming Score:", h_score)
print("Confusion Matrix:\n", cm)
```

```
Accuracy: 0.9600399600399601  
Hamming Score: 0.9600399600399601  
Confusion Matrix:  
[[484  18]  
 [ 22 477]]
```

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