

```
import numpy as np
import pandas as pd
```

```
df=pd.read_csv('pima-indians-diabetes.data.csv')
df.head()
```

	6	148	72	35	0	33.6	0.627	50	1
0	1	85	66	29	0	26.6	0.351	31	0
1	8	183	64	0	0	23.3	0.672	32	1
2	1	89	66	23	94	28.1	0.167	21	0
3	0	137	40	35	168	43.1	2.288	33	1
4	5	116	74	0	0	25.6	0.201	30	0

Next steps: [Generate code with df](#) [New interactive sheet](#)

```
df.columns = ['Pregnancies', 'Glucose', 'BloodPressure', 'SkinThickness',
              'Insulin', 'BMI', 'DiabetesPedigree', 'Age', 'Outcome']
```

```
from sklearn.model_selection import train_test_split

X = df.drop('Outcome', axis=1)
y = df['Outcome']
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.25, random_state=42)
```

```
from sklearn.naive_bayes import GaussianNB
from sklearn.metrics import accuracy_score, f1_score, classification_report

gnb = GaussianNB()
gnb.fit(X_train, y_train)
y_pred_gnb = gnb.predict(X_test)
acc_gnb = accuracy_score(y_test, y_pred_gnb)
f1_gnb = f1_score(y_test, y_pred_gnb)
print("GaussianNB Results:")
print(f"Accuracy: {acc_gnb:.4f}")
print(f"F1-Score: {f1_gnb:.4f}")
print(classification_report(y_test, y_pred_gnb))
```

```
GaussianNB Results:
Accuracy: 0.7396
F1-Score: 0.6032
```

	precision	recall	f1-score	support
0	0.78	0.84	0.81	124
1	0.66	0.56	0.60	68
accuracy			0.74	192
macro avg	0.72	0.70	0.70	192
weighted avg	0.73	0.74	0.73	192

```
from sklearn.naive_bayes import MultinomialNB

mnb = MultinomialNB()
mnb.fit(X_train, y_train)
y_pred_mnb = mnb.predict(X_test)
acc_mnb = accuracy_score(y_test, y_pred_mnb)
f1_mnb = f1_score(y_test, y_pred_mnb)
print("MultinomialNB Results:")
print(f"Accuracy: {acc_mnb:.4f}")
print(f"F1-Score: {f1_mnb:.4f}")
print(classification_report(y_test, y_pred_mnb))
```

```
MultinomialNB Results:
Accuracy: 0.5729
F1-Score: 0.4058
```

	precision	recall	f1-score	support
0	0.67	0.66	0.67	124

1	0.40	0.41	0.41	68
accuracy			0.57	192
macro avg	0.54	0.54	0.54	192
weighted avg	0.58	0.57	0.57	192

```
import pandas as pd

comparison = pd.DataFrame({
    'Model': ['GaussianNB', 'MultinomialNB'],
    'Accuracy': [acc_gnb, acc_mnb],
    'F1-Score': [f1_gnb, f1_mnb]
})
print(comparison)
```

	Model	Accuracy	F1-Score
0	GaussianNB	0.739583	0.603175
1	MultinomialNB	0.572917	0.405797