ASSIGNMENT NO : 8

Code :

```python
import pandas as pd
from sklearn.naive_bayes import GaussianNB

# Define the dataset
data = {
    'Confident': ['Yes', 'Yes', 'No', 'No', 'Yes'],
    'Studied': ['No', 'No', 'Yes', 'Yes', 'Yes'],
    'Sick': ['No', 'Yes', 'Yes', 'No', 'Yes'],
    'Result': ['Fail', 'Pass', 'Fail', 'Pass', 'Pass']
}

# Convert to DataFrame
df = pd.DataFrame(data)

# Encode categorical variables
encoding = {'Yes': 1, 'No': 0, 'Pass': 1, 'Fail': 0}
df.replace(encoding, inplace=True)

# Split features and target
X = df[['Confident', 'Sick']]
y = df['Result']

# Train Naïve Bayes classifier
model = GaussianNB()
model.fit(X, y)

# Define test sample (Confident = Yes, Sick = No)
test_sample = pd.DataFrame([[1, 0]], columns=['Confident', 'Sick'])

# Predict
prediction = model.predict(test_sample)
print("Predicted Decision:", "Pass" if prediction[0] == 1 else "Fail")
```

Output :
Predicted Decision: Pass