In [10]:
```
import pandas as pd
from sklearn.preprocessing import LabelEncoder
from sklearn.naive_bayes import CategoricalNB
```

In [11]:
```
data = {
    'Cheap': ['Yes', 'Yes', 'No', 'Yes', 'No'],
    'Promo': ['Yes', 'No', 'Yes', 'Yes', 'No'],
    'Buy?': ['Yes', 'Yes', 'No', 'Yes', 'No']
}
df = pd.DataFrame(data)
```

In [12]:
```
le_cheap = LabelEncoder()
le_promo = LabelEncoder()
le_buy = LabelEncoder()
```

In [13]:
```
df['Cheap'] = le_cheap.fit_transform(df['Cheap'])
df['Promo'] = le_promo.fit_transform(df['Cheap'])
df['Buy?'] = le_buy.fit_transform(df['Buy?'])
```

In [14]:
```
X = df[['Cheap', 'Promo']]
y = df['Buy?']
```

In [15]:
```
model = CategoricalNB()
model.fit(X, y)
```

Out[15]:
```
CategoricalNB()
```

In [16]:
```
predictions = model.predict(X)
```

In [17]:
```
df['Predicted_Buy'] = le_buy.inverse_transform(predictions)
df['Actual_Buy'] = le_buy.inverse_transform(y)
```

In [18]:
```
print(df)
```

```
   Cheap  Promo  Buy? Predicted_Buy Actual_Buy
0      1      1     1           Yes        Yes
1      1      1     1           Yes        Yes
2      0      0     0            No         No
3      1      1     1           Yes        Yes
4      0      0     0            No         No
```