In [16]:
```
import pandas as pd
```

In [55]:
```
df = pd.read_csv("weather.csv")
df.head()
```

Out[55]:

	outlook	temperature	humidity	wind	play
0	sunny	hot	high	weak	no
1	sunny	hot	high	strong	no
2	overcast	hot	high	weak	yes
3	rain	mild	high	weak	yes
4	rain	cool	normal	weak	yes

In [56]:
```
df['play']=df['play'].apply(lambda x: 1 if x=='yes' else 0)
df.head()
```

Out[56]:

	outlook	temperature	humidity	wind	play
0	sunny	hot	high	weak	0
1	sunny	hot	high	strong	0
2	overcast	hot	high	weak	1
3	rain	mild	high	weak	1
4	rain	cool	normal	weak	1

In [57]:
```
target=df.play
inputs=df.drop('play',axis='columns')
```

In [58]:
```
inputs
```

Out[58]:

	outlook	temperature	humidity	wind
0	sunny	hot	high	weak
1	sunny	hot	high	strong
2	overcast	hot	high	weak
3	rain	mild	high	weak
4	rain	cool	normal	weak
5	rain	cool	normal	strong
6	overcast	cool	normal	strong
7	sunny	mild	high	weak
8	sunny	cool	normal	weak
9	rain	mild	normal	weak
10	sunny	mild	normal	strong
11	overcast	mild	high	strong
12	overcast	hot	normal	weak
13	rain	mild	high	strong
14	sunny	cool	high	strong

In [59]:
```
target
```

Out[59]:
```
0     0
1     0
2     1
3     1
4     1
5     0
6     1
7     0
8     1
9     1
10    1
11    1
12    1
13    0
14    0
Name: play, dtype: int64
```

In [60]:
```
dummies1=pd.get_dummies(inputs.outlook)
dummies1.head(3)
```

Out[60]:

	overcast	rain	sunny
0	0	0	1
1	0	0	1
2	1	0	0

In [61]:
```
dummies2=pd.get_dummies(inputs.temperature)
dummies2.head(3)
```

Out[61]:

	cool	hot	mild
0	0	1	0
1	0	1	0
2	0	1	0

In [62]:
```
dummies3=pd.get_dummies(inputs.humidity)
dummies3.head(3)
```

Out[62]:

	high	normal
0	1	0
1	1	0
2	1	0

In [63]:
```
dummies4=pd.get_dummies(inputs.wind)
dummies4.head(3)
```

Out[63]:

	strong	weak
0	0	1
1	1	0
2	0	1

In [64]:
```
inputs=pd.concat([inputs,dummies1,dummies2,dummies3,dummies4],axis='columns')
inputs.head(3)
```

Out[64]:

	outlook	temperature	humidity	wind	overcast	rain	sunny	cool	hot	mild	high	normal	strong	weak
0	sunny	hot	high	weak	0	0	1	0	1	0	1	0	0	1
1	sunny	hot	high	strong	0	0	1	0	1	0	1	0	1	0
2	overcast	hot	high	weak	1	0	0	0	1	0	1	0	0	1

In [65]:
```
inputs.drop(['outlook','temperature','humidity','wind'],axis='columns',inplace=True)
inputs.head()
```

Out[65]:

	overcast	rain	sunny	cool	hot	mild	high	normal	strong	weak
0	0	0	1	0	1	0	1	0	0	1
1	0	0	1	0	1	0	1	0	1	0
2	1	0	0	0	1	0	1	0	0	1
3	0	1	0	0	0	1	1	0	0	1
4	0	1	0	1	0	0	0	1	0	1

In [66]:
```
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(inputs,target,random_state=None,shuffle=False, stratify=None,test_size=0.06)
```

In [67]:
```
len(X_train)
```

Out[67]:
```
14
```

In [68]:
```
X_train
```

Out[68]:

	overcast	rain	sunny	cool	hot	mild	high	normal	strong	weak
0	0	0	1	0	1	0	1	0	0	1
1	0	0	1	0	1	0	1	0	1	0
2	1	0	0	0	1	0	1	0	0	1
3	0	1	0	0	0	1	1	0	0	1
4	0	1	0	1	0	0	0	1	0	1
5	0	1	0	1	0	0	0	1	1	0
6	1	0	0	1	0	0	0	1	1	0
7	0	0	1	0	0	1	1	0	0	1
8	0	0	1	1	0	0	0	1	0	1
9	0	1	0	0	0	1	0	1	0	1
10	0	0	1	0	0	1	0	1	1	0
11	1	0	0	0	0	1	1	0	1	0
12	1	0	0	0	1	0	0	1	0	1
13	0	1	0	0	0	1	1	0	1	0

In [69]:
```
from sklearn.naive_bayes import CategoricalNB
model=CategoricalNB()
```

In [70]:
```
model.fit(X_train,y_train)
```

Out[70]:
```
CategoricalNB()
```

In [71]:
```
X_test
```

Out[71]:

	overcast	rain	sunny	cool	hot	mild	high	normal	strong	weak
14	0	0	1	1	0	0	1	0	1	0

In [72]:
```
y_test
```

Out[72]:
```
14    0
Name: play, dtype: int64
```

In [73]:
```
model.predict(X_test)
```

Out[73]:
```
array([0], dtype=int64)
```

In [ ]:
```

```

In [ ]:
```

```