In [12]:
```
import numpy as np
import pandas as pd
```

In [13]:
```
df = pd.read_csv('./Enjoy-sport.csv')
df.head()
```

Out[13]:

	Sky	AirTemp	Humidity	Wind	Water	Forecast	EnjoySPort
0	sunny	warm	normal	strong	warm	same	yes
1	sunny	warm	high	strong	warm	same	yes
2	rainy	cold	high	strong	warm	change	no
3	sunny	warm	high	strong	cool	change	yes

In [14]:
```
df.tail()
```

Out[14]:

	Sky	AirTemp	Humidity	Wind	Water	Forecast	EnjoySPort
0	sunny	warm	normal	strong	warm	same	yes
1	sunny	warm	high	strong	warm	same	yes
2	rainy	cold	high	strong	warm	change	no
3	sunny	warm	high	strong	cool	change	yes

In [15]:
```
dataFrame = pd.DataFrame(df)
```

In [16]:
```
target = np.array(dataFrame.iloc[:,-1])
```

In [17]:
```
concepts = np.array(dataFrame.iloc[:,0:-1])
```

In [18]:
```
specific = concepts[0]
general = [['?' for i in range(len(specific))] for j in range(len(specific))]
for i , h in enumerate(concepts):
    if target[i] == 'yes':
        for x in range(len(specific)):
            if h[x] != specific[x]:
                specific[x] = '?'
                general[x][x] = '?'
    if target[i] == 'no':
        for x in range(len(specific)):
            if h[x] != specific[x]:
                general[x][x] = specific[x]
            else:
                general[x][x] = '?'
```

In [19]:
```
general = [i for i in general if i != ['?','?','?','?','?','?']]
```

In [20]:
```
print(general)
print(specific)
```

```
[['sunny', '?', '?', '?', '?', '?'], ['?', 'warm', '?', '?', '?', '?']]
['sunny' 'warm' '?' 'strong' '?' '?']
```

In [ ]: