1. For any dataset, find the most specific hypothesis that fits all the positive examples using the Find-S algorithm.

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

In [ ]:
```
d = pd.read_csv("data_table2.csv")
print(d)
```

```
     Sky  Temp Humidity    Wind Water Forecast EnjoySport
0  Sunny  Warm   Normal  Strong  Warm     Same         No
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 [ ]:
```
a = np.array(d)[:,:-1]
print(" The attributes are: ",a)
```

```
The attributes are:  [['Sunny' 'Warm' 'Normal' 'Strong' 'Warm' 'Same']
['Sunny' 'Warm' 'High' 'Strong' 'Warm' 'Same']
['Rainy' 'Cold' 'High' 'Strong' 'Warm' 'Change']
['Sunny' 'Warm' 'High' 'Strong' 'Cool' 'Change']]
```

In [ ]:
```
t = np.array(d)[:,-1]
print("The target is: ",t)
```

```
The target is:  ['No' 'Yes' 'No' 'Yes']
```

In [ ]:
```
def fun(c,t):
    for i, val in enumerate(t):
        if val == "Yes":
            specific_hypothesis = c[i].copy()
            break
    for i, val in enumerate(c):
        if t[i] == "Yes":
            for x in range(len(specific_hypothesis)):
                    if val[x] != specific_hypothesis[x]:
                         specific_hypothesis[x] = '?'
                    else:
                        pass
    return specific_hypothesis
print(" The final hypothesis is:",fun(a,t))
```

```
The final hypothesis is: ['Sunny' 'Warm' 'High' 'Strong' '?' '?']
```

In [ ]:
```
```