In [5]:

```
import csv
num_attribute=6
a=[]
with open('project1.csv', 'r') as csvfile:
    reader=csv.reader(csvfile)
    for row in reader:
        a.append(row)
        print(row)
print("\n The total number of training instances are : ",len(a))
num_attribute = len(a[0])-1
print("\n The initial hypothesis is : ")
hypothesis = ['0']*num_attribute
print(hypothesis)
for j in range(0,num_attribute):
    hypothesis[j]=a[0][j]
print("\n Find-S: Finding maximally specific Hypothesis\n")
for i in range(0,len(a)):
    if a[i][num_attribute]=='Yes':
        for j in range(0,num_attribute):
            if a[i][j]!=hypothesis[j]:
                hypothesis[j]='?'
            else:
                hypothesis[j]=a[i][j]
    print("\n For training Example No:{0} the hypothesis is".format(i),hypothesis)
print("\n The Maximally specific hypothesis for the training instance is ")
print(hypothesis)
```

```
['sunny', 'warm', 'normal', 'strong', 'warm', 'same', 'Yes']
['sunny', 'warm', 'high', 'strong', 'warm', 'same', 'Yes']
['rainy', 'cold', 'high', 'strong', 'warm', 'change', 'No']
['sunny', 'warm', 'high', 'strong', 'cool', 'change', 'Yes']

 The total number of training instances are :  4

 The initial hypothesis is :
['0', '0', '0', '0', '0', '0']

 Find-S: Finding maximally specific Hypothesis


 For training Example No:0 the hypothesis is ['sunny', 'warm', 'normal', 'strong', 'warm', 'same']

 For training Example No:1 the hypothesis is ['sunny', 'warm', '?', 'strong', 'warm', 'same']

 For training Example No:2 the hypothesis is ['sunny', 'warm', '?', 'strong', 'warm', 'same']

 For training Example No:3 the hypothesis is ['sunny', 'warm', '?', 'strong', '?', '?']

 The Maximally specific hypothesis for the training instance is
['sunny', 'warm', '?', 'strong', '?', '?']
```

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Run Code

In [5]:
```
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print("\n The initial hypothesis is : ")
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print(hypothesis)
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    hypothesis[j]=a[0][j]
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for i in range(0,len(a)):
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```

```
['sunny', 'warm', 'normal', 'strong', 'warm', 'same', 'Yes']
['sunny', 'warm', 'high', 'strong', 'warm', 'same', 'Yes']
['rainy', 'cold', 'high', 'strong', 'warm', 'change', 'No']
['sunny', 'warm', 'high', 'strong', 'cool', 'change', 'Yes']

 The total number of training instances are :  4
```

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Run Code

```
            else:
                hypothesis[j]=a[i][j]
    print("\n For training Example No:{0} the hypothesis is".format(i),hypothesis)
print("\n The Maximally specific hypothesis for the training instance is ")
print(hypothesis)
```

```
['sunny', 'warm', 'normal', 'strong', 'warm', 'same', 'Yes']
['sunny', 'warm', 'high', 'strong', 'warm', 'same', 'Yes']
['rainy', 'cold', 'high', 'strong', 'warm', 'change', 'No']
['sunny', 'warm', 'high', 'strong', 'cool', 'change', 'Yes']

 The total number of training instances are :  4

 The initial hypothesis is :
['0', '0', '0', '0', '0', '0']

 Find-S: Finding maximally specific Hypothesis


 For training Example No:0 the hypothesis is ['sunny', 'warm', 'normal', 'strong', 'warm', 'same']

 For training Example No:1 the hypothesis is ['sunny', 'warm', '?', 'strong', 'warm', 'same']

 For training Example No:2 the hypothesis is ['sunny', 'warm', '?', 'strong', 'warm', 'same']

 For training Example No:3 the hypothesis is ['sunny', 'warm', '?', 'strong', '?', '?']

 The Maximally specific hypothesis for the training instance is
['sunny', 'warm', '?', 'strong', '?', '?']
```

In [ ]:

In [ ]:

In [ ]: