

In [4]:

```
import csv
num_attribute=6
a=[]
with open('prgm1.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', '?', '?']
```

In [ ]: