In [10]:

```
import csv
with open('enjoysport.csv', 'r') as f:
    reader = csv.reader(f)
    data = list(reader)
print("Training data\n")
for row in data:
    print(row)

attr_len = len(data[0])-1
h = ['0']*attr_len
print("h=",h)
k=0

print("\nThe Hypothesis are\n")
for row in data:

    if row[-1] == 'yes':
        j = 0
        for col in row:
            if col != 'yes':
                if col != h[j] and h[j] == '0':
                    h[j] = col
                elif col != h[j] and h[j] != '0':
                    h[j] = '?'

            j = j + 1
    print("h",k,"=",h)
    k=k+1

print('\nMaximally Specific Hypothesis: \n',"h",k-1,"=", h)


```

```
Training data

['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']
h= ['0', '0', '0', '0', '0', '0']

The Hypothesis are

h 0 = ['sunny', 'warm', 'normal', 'strong', 'warm', 'same']
h 1 = ['sunny', 'warm', '?', 'strong', 'warm', 'same']
h 2 = ['sunny', 'warm', '?', 'strong', 'warm', 'same']
h 3 = ['sunny', 'warm', '?', 'strong', '?', '?']

Maximally Specific Hypothesis:
 h 3 = ['sunny', 'warm', '?', 'strong', '?', '?']
```

In [1]:

```
import csv
with open('sheet1.csv', 'r') as f:
    reader = csv.reader(f)
    data = list(reader)
print("Training data\n")
for row in data:
    print(row)

attr_len = len(data[0])-1
h = ['0']*attr_len
print("h=",h)
k=0

print("\nThe Hypothesis are\n")
for row in data:

    if row[-1] == 'yes':
        j = 0
        for col in row:
            if col != 'yes':
                if col != h[j] and h[j] == '0':
                    h[j] = col
                elif col != h[j] and h[j] != '0':
                    h[j] = '?'

            j = j + 1
    print("h",k,"=",h)
    k=k+1

print('\nMaximally Specific Hypothesis: \n',"h",k-1,"=", h)

```

```
Training data

['sky', 'airtemp', 'humidity', 'wind', 'water', 'forecast', 'enjoysport']
['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']
h= ['0', '0', '0', '0', '0', '0']

The Hypothesis are

h 0 = ['0', '0', '0', '0', '0', '0']
h 1 = ['sunny', 'warm', 'normal', 'strong', 'warm', 'same']
h 2 = ['sunny', 'warm', '?', 'strong', 'warm', 'same']
h 3 = ['sunny', 'warm', '?', 'strong', 'warm', 'same']
h 4 = ['sunny', 'warm', '?', 'strong', '?', '?']

Maximally Specific Hypothesis:
 h 4 = ['sunny', 'warm', '?', 'strong', '?', '?']
```

In [2]:

```
import csv
with open('sheet2.csv', 'r') as f:
    reader = csv.reader(f)
    data = list(reader)
print("Training data\n")
for row in data:
    print(row)

attr_len = len(data[0])-1
h = ['0']*attr_len
print("h=",h)
k=0

print("\nThe Hypothesis are\n")
for row in data:

    if row[-1] == 'yes':
        j = 0
        for col in row:
            if col != 'yes':
                if col != h[j] and h[j] == '0':
                    h[j] = col
                elif col != h[j] and h[j] != '0':
                    h[j] = '?'

            j = j + 1
    print("h",k,"=",h)
    k=k+1

print('\nMaximally Specific Hypothesis: \n',"h",k-1,"=", h)

```

```
Training data

['citation', 'size', 'inlibrary', 'price', 'edition', 'buy']
['some', 'small', 'no', 'affordable', 'many', 'no']
['many', 'big', 'no', 'expensive', 'one', 'yes']
['some', 'big', 'always', 'expensive', 'few', 'no']
['many', 'medium', 'no', 'expensive', 'many', 'yes']
['many', 'small', 'no', 'affordable', 'many', 'yes']
h= ['0', '0', '0', '0', '0']

The Hypothesis are

h 0 = ['0', '0', '0', '0', '0']
h 1 = ['0', '0', '0', '0', '0']
h 2 = ['many', 'big', 'no', 'expensive', 'one']
h 3 = ['many', 'big', 'no', 'expensive', 'one']
h 4 = ['many', '?', 'no', 'expensive', '?']
h 5 = ['many', '?', 'no', '?', '?']

Maximally Specific Hypothesis:
 h 5 = ['many', '?', 'no', '?', '?']
```

In [3]:

```
import csv
with open('sheet3.csv', 'r') as f:
    reader = csv.reader(f)
    data = list(reader)
print("Training data\n")
for row in data:
    print(row)

attr_len = len(data[0])-1
h = ['0']*attr_len
print("h=",h)
k=0

print("\nThe Hypothesis are\n")
for row in data:

    if row[-1] == 'yes':
        j = 0
        for col in row:
            if col != 'yes':
                if col != h[j] and h[j] == '0':
                    h[j] = col
                elif col != h[j] and h[j] != '0':
                    h[j] = '?'

            j = j + 1
    print("h",k,"=",h)
    k=k+1

print('\nMaximally Specific Hypothesis: \n',"h",k-1,"=", h)

```

```
Training data

['outlook', 'temperature', 'humidity', 'wind', 'playtennis']
['overcast', 'hot', 'high', 'weak', 'yes']
['rain', 'mild', 'high', 'weak', 'yes']
['rain', 'cool', 'normal', 'strong', 'no']
['overcast', 'cool', 'normal', 'weak', 'yes']
h= ['0', '0', '0', '0']

The Hypothesis are

h 0 = ['0', '0', '0', '0']
h 1 = ['overcast', 'hot', 'high', 'weak']
h 2 = ['?', '?', 'high', 'weak']
h 3 = ['?', '?', 'high', 'weak']
h 4 = ['?', '?', '?', 'weak']

Maximally Specific Hypothesis:
 h 4 = ['?', '?', '?', 'weak']
```

In [ ]:

```
### UJVAL DR ---1DA18CS173
```