```
In [10]:
              import csv
              with open('enjoysport.csv', 'r') as f:
                  reader = csv.reader(f)
           3
           4
                  data = list(reader)
           5
              print("Training data\n")
           6
              for row in data:
           7
                  print(row)
           8
              attr_len = len(data[0])-1
           9
              h = ['0']*attr_len
          10
              print("h=",h)
          11
          12
              k=0
          13
              print("\nThe Hypothesis are\n")
          14
          15
              for row in data:
          16
                  if row[-1] == 'yes':
          17
          18
                      j = 0
                      for col in row:
          19
          20
                           if col != 'yes':
          21
                               if col != h[j] and h[j] == '0':
          22
                                   h[j] = col
          23
                               elif col != h[j] and h[j] != '0':
                                   h[j] = '?'
          24
          25
          26
                           j = j + 1
          27
                  print("h",k,"=",h)
          28
                  k=k+1
          29
              print('\nMaximally Specific Hypothesis: \n', "h", k-1, "=", h)
          30
          31
          32
```

## Training data

```
['sunny', 'warm', 'normal', 'strong', 'warm', 'same', 'yes']
['sunny', 'warm', 'high', 'strong', 'warm', 'change', 'no']
['rainy', 'cold', 'high', 'strong', 'warm', 'change', 'no']
['sunny', 'warm', 'high', 'strong', 'cool', 'change', 'yes']
h= ['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:
          2
          3
                 reader = csv.reader(f)
                 data = list(reader)
          5
             print("Training data\n")
             for row in data:
          6
          7
                 print(row)
          8
             attr len = len(data[0])-1
          9
             h = ['0']*attr_len
         10
             print("h=",h)
         11
         12
             k=0
         13
         14
             print("\nThe Hypothesis are\n")
         15
             for row in data:
         16
         17
                 if row[-1] == 'yes':
         18
                     j = 0
                     for col in row:
         19
         20
                          if col != 'yes':
                              if col != h[j] and h[j] == '0':
         21
         22
                                  h[j] = col
                              elif col != h[j] and h[j] != '0':
         23
         24
                                  h[i] = '?'
         25
         26
                          j = j + 1
                 print("h",k,"=",h)
         27
         28
                 k=k+1
         29
         30
             print('\nMaximally Specific Hypothesis: \n', "h", k-1, "=", h)
         31
```

## Training data

```
['sky', 'airtemp', 'humidity', 'wind', 'water', 'forecast', 'enjoysport']
['sunny', 'warm', 'normal', 'strong', 'warm', 'same', 'yes']
['sunny', 'warm', '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:
          2
          3
                 reader = csv.reader(f)
                 data = list(reader)
          5
             print("Training data\n")
             for row in data:
          6
          7
                 print(row)
          8
             attr len = len(data[0])-1
          9
             h = ['0']*attr_len
         10
             print("h=",h)
         11
         12
             k=0
         13
         14
             print("\nThe Hypothesis are\n")
         15
             for row in data:
         16
                 if row[-1] == 'yes':
         17
         18
                     j = 0
                     for col in row:
         19
         20
                          if col != 'yes':
                              if col != h[j] and h[j] == '0':
         21
         22
                                  h[j] = col
                              elif col != h[j] and h[j] != '0':
         23
         24
                                  h[i] = '?'
         25
         26
                          j = j + 1
                 print("h",k,"=",h)
         27
         28
                 k=k+1
         29
         30
             print('\nMaximally Specific Hypothesis: \n', "h", k-1, "=", h)
         31
```

## 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:
          2
          3
                 reader = csv.reader(f)
          4
                 data = list(reader)
          5
             print("Training data\n")
             for row in data:
          6
          7
                 print(row)
          8
             attr len = len(data[0])-1
          9
             h = ['0']*attr_len
         10
             print("h=",h)
         11
         12
             k=0
         13
             print("\nThe Hypothesis are\n")
         14
         15
             for row in data:
         16
         17
                 if row[-1] == 'yes':
         18
                     j = 0
         19
                     for col in row:
         20
                          if col != 'yes':
                              if col != h[j] and h[j] == '0':
         21
                                  h[j] = col
         22
         23
                              elif col != h[j] and h[j] != '0':
                                  h[j] = '?'
         24
         25
         26
                          j = j + 1
                 print("h",k,"=",h)
         27
         28
                 k=k+1
         29
         30
             print('\nMaximally Specific Hypothesis: \n', "h", k-1, "=", h)
         31
        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']
                   ### UJVAL DR ---1DA18CS173
In [ ]:
```