

2. For a given set of training data examples stored in a .csv file, implement & demonstrate the candidate Elimination algorithm to output a description of the set of all hypotheses consistent with the training examples.

```

import csv
with open ('c:/Users/lenovo/Desktop/4MT/CS0606-Project/enjoyspot.csv') as f: csv-file=csv.reader(f)
data = list (csv-file)
print (data)
s = data[0][:-1]
print (s)
q = ['?']
for i in range (len (s)):
    for j in range (len (s)):
        for i in data:
            if i[-1] == "yes":
                for j in range (len (s)):
                    if i[j] != s[j]:
                        s[j] = '?'
            elif i[-1] == "no":
                for j in range (len (s)):
                    if i[j] != s[j]:
                        q[i][j] = s[j]
                    else:
                        q[i][j] = '?'

```

```
print ("steps of candidate elimination  
algorithm ", data.index(i) + 1)
```

```
print (s)
```

```
print (g)
```

```
gh = []
```

```
for i in g:
```

```
    for j in i:
```

```
        if j != '?':
```

```
            gh.append(i)
```

```
            break
```

```
print ("In Final specific hypothesis : ", s)
```

```
print ("In Final general hypothesis : ", gh)
```

output :

['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']
['sunny', 'warm', 'high', 'strong', 'warm', 'same']

Steps of candidate elimination algorithm 1 :

['sunny', 'warm', '?', 'strong', 'warm', 'same']
[['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?'],
['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?'],
['?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?']]

Steps of candidate elimination algorithm 2 :

['sunny', 'warm', '?', 'strong', 'warm', 'same']
[['?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?']
['?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?']
['?', '?', '?', '?', '?'], ['?', '?', '?', '?']]

Steps of candidate elimination algorithm 3:

['sunny', 'warm', '?', 'strong', 'warm', 'same']
 [['sunny', '?', '?', '?', '?', '?'], ['?', 'warm', '?', '?', '?', '?']
 ['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?']
 ['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', 'same']

Steps of candidate elimination algorithm 4:

['sunny', 'warm', '?', 'strong', '?', '?']
 [['sunny', '?', '?', '?', '?', '?'],
 ['?', 'warm', '?', '?', '?', '?'],
 ['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?']
 ['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?']

Final general hypothesis

['sunny', 'warm', '?', 'strong', '?', '?']

Final general hypothesis:

['sunny', '?', '?', '?', '?', '?'], ['?', 'warm',
 '?', '?', '?', '?']