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4MT16CS060

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DATE : 29/9/20
EXP.NO. : 1

1 Implement & demonstrate the FIND-S algorithm for finding the most specific hypothesis based on a set of training data samples. Read the training data from a .csv file.

```
from pandas import DataFrame
data = DataFrame.from_csv('C:/Users/lenovo/Desktop/4MT16CS060-Prajwal/enjoyspot.csv','r')
columnLength = data.shape[1]
print(data)
h = ['0'] * (columnLength - 1)
hp = []
hn = []
for trainingExample in data values:
    if trainingExample[-1] != 'no':
        hp.append(list(trainingExample))
    else:
        hn.append(list(trainingExample))
for i in range(len(hp)):
    for j in range(columnLength - 1):
        if (h[i] == '0'):
            h[j] = hp[i][j]
        if (h[j] != hp[i][j]):
            h[j] = '?'
```

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else :
    hs[j] = hp[i][j]:
        hn[j] = '?'
else:
print ("\n The Positive hypothesis are :", hp)
print ("\n The negative hypothesis are :", hn)
print ("\n The maximally specific hypothesis
        is :", h)
```

output :

SL.NO	Sky	Air Temp	Humidity	wind	water	Forecast	Enjoy spot
1	Sunny	warm	normal	Strong	warm	Same	Yes
2	Sunny	warm	high	Strong	warm	Same	Yes
3	Rainy	cold	high	Strong	warm	change	No
4	Sunny	warm	high	Strong	cool	change	Yes

The positive hypothesis are :

[['Sunny', 'warm', 'normal', 'strong', 'warm' 'same', 'yes'],
['Sunny', 'warm', 'high', 'Strong', 'warm', 'same', 'yes'],
['Sunny', 'warm', 'high', 'strong', 'cool', 'change', 'yes']]

The negative hypothesis are :

[['rainy', 'cold', 'high', 'strong', 'warm', 'change', 'no']]

The maximally specific hypothesis is :

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