Miliad Bijukumar - 4MT17CS058

* Implement and 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\Mili\OneDrive\Desktop\Mite\
                               4MT17CS058_Miliad \lab1.csv")
columnLength = data.shape [1];
print(data);
h = ['o'] * (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[j] == 'o'):
            h[j] = hp[i][j]
        if ( h[j] != hp[i][j]:
            h[j] = '?'
        else:
            h[j] = hp[i][j]
```

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```
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 Sport
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	Cold	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

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