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import numpy as np
import pandas as pd

data = pd.DataFrame(data=pd.read_csv('C:\\Users\\Batchisel\\Desktop\\DATASETS\\Vidyap1.csv'))
concepts=np.array(data.iloc[:,0:-1])
target=np.array(data.iloc[:,-1])

def learn(concepts,target):
    specific_h=concepts[0].copy()
    general_h=[["?" for i in range(len(specific_h))] for i in range(len(specific_h))]
    for i,h in enumerate(concepts):
        """Enumerate() method adds a counter to an iterable and returns it in a form od enumerating"""
        if target[i]=="yes":
            for x in range (len(specific_h)):
                if h[x]!=specific_h[x]:
                    specific_h[x]='?'
                    general_h[x][x]='?'
            if target[i]=="no":
                for x in range(len(specific_h)):
                    if h[x]!=specific_h[x]:
                        general_h[x][x]=specific_h[x]
            else:
                general_h[x][x]='?'
    indices=[i for i, val in enumerate(general_h) if val==['?', '?', '?', '?', '?']]
    for i in indices:
        general_h.remove(['?', '?', '?', '?', '?'])
    return specific_h,general_h

s_final,g_final=learn(concepts,target)
print("Final s:",s_final, sep="\n")
print("Final g:",g_final, sep="\n")
data.head()

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$[['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?'], ['?', '?', '?', '?', '?', '?'],$

	Sunny	warm	normal	strong	warm.1	same	yes
0	sunny	warm	high	strong	warm	same	yes
1	rainy	cold	high	strong	warm	change	no
2	sunny	warm	high	strong	cool	change	yes