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# coding: utf-8
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# In[2]:
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import numpy as np
import pandas as pd
data = pd.DataFrame(data=pd.read_csv(r'C:\Users\Computer\Desktop\ML LAB\DATA
SET\Finds.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):
        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] = '?'
    print(specific_h)
    print(general_h)
    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()
```