

LAB PROGRAM – CANDIDATE ELIMINATION ALGORITHM

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import pandas as pd

import numpy as np

data = pd.read_csv('Training_examples.csv')

concept = np.array(data)[:,:-1]
print("The concepts to be learned")
print(concept)
target = np.array(data)[:,-1]
print("\nLabels specific to the concepts\n")
print(target)
print("\n")

def learn(concept,target):
    specific_h = concept[0].copy()
    general_h = [['?' for i in range(len(specific_h))] for i in range(len(specific_h))]

    for i,h in enumerate(concept):
        if target[i]=='Yes':
            for j in range(len(specific_h)):
                if h[j]!=specific_h[j]:
                    specific_h[j]='?'
                    general_h[j][j]='?'

        elif target[i]=='No':
            for j in range(len(specific_h)):
                if h[j]!=specific_h[j]:

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        general_h[j][j]=specific_h[j]
    else:
        general_h[j][j]='?'

    indices = [i for i,val in enumerate(general_h) if val=='?' for i in range(len(specific_h))]
    for i in indices:
        general_h.remove(['?' for i in range(len(specific_h))])

    return specific_h,general_h

s_final, g_final = learn(concept,target)
print("Final S: ", s_final)
print("Final G: ", g_final)

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