Candidate elimination algorihm using enjoysport dataset

import numpy as np

import pandas as pd

# Reading the data from CSV file

data = pd.read\_csv('/content/sample\_data/enjoysport.csv')

concepts = np.array(data.iloc[:,:-1])

print("\nInstances are:\n",concepts)

target = np.array(data.iloc[:,-1])

print("\nTarget Values are: ",target)

def train(concepts, target):

    # Initializing general and specific hypothesis

    specific\_h = concepts[0].copy()

    print("\nInitialization of specific hypothesis and general hypothesis")

    print("\nSpecific Boundary: ", specific\_h)

    general\_h = [["?" for i in range(len(specific\_h))] for i in range(len(specific\_h))]

    print("\nGeneric Boundary: ",general\_h)

    for i, val in enumerate(concepts):

        print("\nInstance", i+1 , "is ", val)

        #positive example

        if target[i] == "yes":

            print("Instance is Positive ")

            for x in range(len(specific\_h)):

                if val[x]!= specific\_h[x]:

                    specific\_h[x] ='?'

                    general\_h[x][x] ='?'

        #negative example

        if target[i] == "no":

            print("Instance is Negative ")

            for x in range(len(specific\_h)):

                if val[x]!= specific\_h[x]:

                    general\_h[x][x] = specific\_h[x]

                else:

                    general\_h[x][x] = '?'

        print("Specific Bundary after ", i+1, "Instance is ", specific\_h)

        print("Generic Boundary after ", i+1, "Instance is ", general\_h)

        print("\n")

    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 = train(concepts, target)

# displaying Specific\_hypothesis

print("Final Specific\_h: ", s\_final, sep="\n")

# displaying Generalized\_Hypothesis

print("Final General\_h: ", g\_final, sep="\n")