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Roll no:-95 practical no:-2

Practical Name:-implement to find-s inductive learning algorithm.

import pandas as pd  
import numpy as np  
#to the data in the csv file  
data = pd.read\_csv("C:/Users/patil/Documents/sheet2.csv")  
print("Given Data Set")  
print(data,"n")  
#making an array of all the attribute  
d = np.array(data)[:,:-1]  
print("n The attributes are:",d)  
  
#segragating the target that has positive and negative example  
target = np.array(data)[:,-1]  
print("n The target is:",target)  
  
#training function implement find-s algorithm  
def train(c,t):  
 for i, val in enumerate(t):  
 if val == "yes":  
 sp\_hp = c[i].copy()  
 break  
 print("Initial hypothesis=",sp\_hp)  
 for i, val in enumerate(c):  
 if target[i] == "yes":  
 for x in range(len(sp\_hp)):  
 if val[x] != sp\_hp[x]:  
 sp\_hp[x] = '?'  
 else:  
 pass  
 return sp\_hp  
 #obtaining the final hypothesis  
print("final hypothesis is:",train(d,target))

**output**:- C:\Users\patil\PycharmProjects\ml\venv\Scripts\python.exe C:\Users\patil\PycharmProjects\ml\s.py

Given Data Set

sky Air temp Humidity Wind Water Forcast Enjoysport

0 sunny warm Normal strong warm same yes

1 sunny warm High strong warm same yes

2 sunny cold High strong warm same yes

3 Rainy cold Normal strong cold change no

4 sunny cold High weak warm change no

5 sunny cold Normal weak warm same yes

6 Rainy warm High weak cold change no n

n The attributes are: [['sunny' 'warm' 'Normal' 'strong' 'warm' 'same']

['sunny' 'warm' 'High' 'strong' 'warm' 'same']

['sunny' 'cold' 'High' 'strong' 'warm' 'same']

['Rainy' 'cold' 'Normal' 'strong' 'cold' 'change']

['sunny' 'cold' 'High' 'weak' 'warm' 'change']

['sunny' 'cold' 'Normal' 'weak' 'warm' 'same']

['Rainy' 'warm' 'High' 'weak' 'cold' 'change']]

n The target is: ['yes' 'yes' 'yes' 'no' 'no' 'yes' 'no']

Initial hypothesis= ['sunny' 'warm' 'Normal' 'strong' 'warm' 'same']

final hypothesis is: ['sunny' '?' '?' '?' 'warm' 'same']

Process finished with exit code 0