CODE:

# Assignment 1: Implement and demonstrate the FIND-S algorithm for finding the most specific hypothesis based on a given  
# set of training data samples. Read the training data from a .CSV file.  
  
  
from csv import reader  
  
  
with open('dataset.csv') as csv\_file:  
  
 data = reader(csv\_file)  
  
 attrs = next(data)  
 print('\nAttributes:'**,** attrs**,** '\n')  
 h = ['Φ' for \_ in attrs[:-**1**]]  
 print('h initialized to most specific hypothesis:'**,** h**,** '\n')  
  
 for values in data: # assigning first positive record to h (find-s considers +ve records only)  
 print('Record:'**,** values)  
 if values[-**1**] == 'Yes':  
 h = values[:-**1**]  
 print('h:'**,** h**,** '\n')  
 break  
  
 for values in data: # generalizing  
 print('Record:'**,** values)  
 if values[-**1**] == 'Yes':  
 for i**,** value in enumerate(values[:-**1**]):  
 if h[i] != value:  
 h[i] = '?'  
 print('h:'**,** h**,** '\n')  
  
  
print('Generalised hypothesis:'**,** h)

OUTPUT:

Attributes: ['Sky', 'Temp', 'Humidity', 'Wind', 'Water', 'Forecast', 'EnjoySport']

h initialized to most specific hypothesis: ['Φ', 'Φ', 'Φ', 'Φ', 'Φ', 'Φ']

Record: ['Rainy', 'Cold', 'High', 'Strong', 'Warm', 'Change', 'No']

Record: ['Sunny', 'Warm', 'Normal', 'Strong', 'Warm', 'Same', 'Yes']

h: ['Sunny', 'Warm', 'Normal', 'Strong', 'Warm', 'Same']

Record: ['Sunny', 'Warm', 'High', 'Strong', 'Warm', 'Same', 'Yes']

h: ['Sunny', 'Warm', '?', 'Strong', 'Warm', 'Same']

Record: ['Sunny', 'Warm', 'High', 'Strong', 'Cool', 'Change', 'Yes']

h: ['Sunny', 'Warm', '?', 'Strong', '?', '?']

Generalised hypothesis: ['Sunny', 'Warm', '?', 'Strong', '?', '?']