Experiment-1

AIM: 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.

Open cmd:

```
Microsoft Windows [Version 10.0.22631.4602]
(c) Microsoft Corporation. All rights reserved.

C:\Users\LAB>python --version
Python 3.7.0

C:\Users\LAB>
```

Enter the following command:

pip install jupyter notebook

```
C:\Users\LAB>pip install jupyter notebook

Requirement already satisfied: jupyter in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (1.0.0)

Requirement already satisfied: notebook in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (6.5.7)

Requirement already satisfied: qtconsole in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from jupyter) (5.4.4)

Requirement already satisfied: jupyter-console in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from jupyter) (6.6.3)

Requirement already satisfied: inconvert in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from jupyter) (6.16.2)

Requirement already satisfied: ipykernel in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from notebook) (3.1.4)

Requirement already satisfied: jinja2 in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from notebook) (3.1.4)

Requirement already satisfied: tornado>=6.1 in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from notebook) (6.2)

Requirement already satisfied: pyzmq>=17 in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from notebook) (26.1.1)

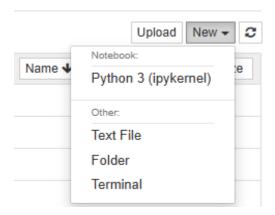
Requirement already satisfied: argon2-cffi in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from notebook) (26.1.1)

Requirement already satisfied: argon2-cffi in c:\users\lab\appdata\local\programs\python\python37\lib\site-packages (from notebook) (26.1.1)
```

Enter the following command:

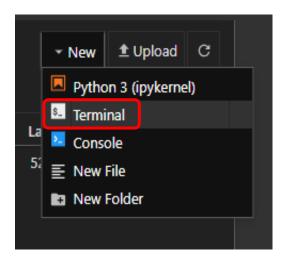
> python -m notebook

Open new python file:



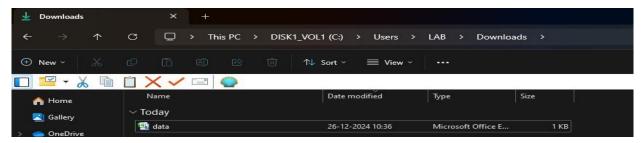
To open jupyter terminal:

(used to import any packages)



Download the dataset:

(copy data.csv file from user and paste it in your downloads)



Open the jupyter notebook file: Write the following code:

```
Jupyter ML Exp-1 Last Checkpoint: 2 minutes ago (unsaved changes)
                                                                                                                                         Logout
                                          Widgets
                                                                                                                             Python 3 (ipykernel) O
       % 4 B ∧ ↓
                            ▶ Run ■ C → Code
       In [1]: import csv
               file_path = r"C:\Users\LAB\Downloads\data.csv"
               with open(file path, 'r') as file:
                   reader = csv.reader(file)
                   data = list(reader)
               hypothesis = ['0'] * (len(data[0]) - 1)
                for instance in data:
                   if instance[-1].strip().lower() == 'yes':
                       for i in range(len(hypothesis)):
                           if hypothesis[i] == '0':
                               hypothesis[i] = instance[i]
                           elif instance[i] != hypothesis[i]:
                               hypothesis[i] = '?
               print("Most specific hypothesis:", hypothesis)
```

To run code:

Click: (shift+enter)

To run code:

Click: (shift+enter)

Output:

```
print("Most specific hypothesis:", hypothesis)
        Most specific hypothesis: ['sunny', 'warm', '?', 'strong', '?', '?']
In [ ]:
```