Assignment #1

Marks: 10

(CLO=1, PLO=2, BT=C2)

Please choose a reliable and credible source that addresses leaf diseases in plants. This source should be authentic and properly cited, and it can be an excerpt from a book or a journal article.

Once you have selected the source, extract a set of rules related to leaf diseases from it. These rules should provide guidance or principles regarding the identification, prevention, or treatment of such diseases. Ensure that your rule base consists of at least twenty-five rules.

Design and implement fuzzy logic based system to diagnose leaf diseases based on a defined set of rules. The system should utilize these rules for disease identification and provide inferencing capabilities.
Employ Python SciKit Fuzzy to encode the disease knowledge base. Create a user-friendly interface that allows users to input observed leaf symptoms. The system should then utilize the inference engine to diagnose the most likely disease and present the results.
The report should include:

- Linguistic variables, with description.
- Graphical and mathematical representation of all the membership functions with justification of choice.
- Rule Base

Capture screenshots demonstrating various inferencing scenarios. These scenarios should showcase the system's ability to diagnose different diseases based on diverse symptom combinations.
Include well-structured and comprehensive comments within the code to enhance readability and understanding. Ensure the program is well-organized and easy to follow.

Note: The assignment must be submitted in group of FOUR only.
Only PDF submission will be accepted.
You must write enrollment numbers with name on cover page.