Assignment 2

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Title : AI Lab Assignment Report: Career Selector using Rule-Based System

Aim of the Practical : To design and implement a career selector expert system using rule-based logic first through basic if-else conditions, and later using the experta module in Python for a more structured and scalable approach.

Objective :

1.
2. To understand the working of rule-based systems.
3. To create a career selection system based on user input.
4. To implement the system using both basic conditional logic and the experta module.
5. To explore the basics of expert system frameworks in AI.

Explanation of Tasks Performed :

1. Career Selector using If-Else Statements:

- Created a Python program that asks the user several questions related to interests, skills, and preferences.
- Based on the responses, used if-else logic to suggest a suitable career (e.g., Data Scientist, Doctor, Engineer, Artist).
- Successfully executed and tested the program with different inputs.

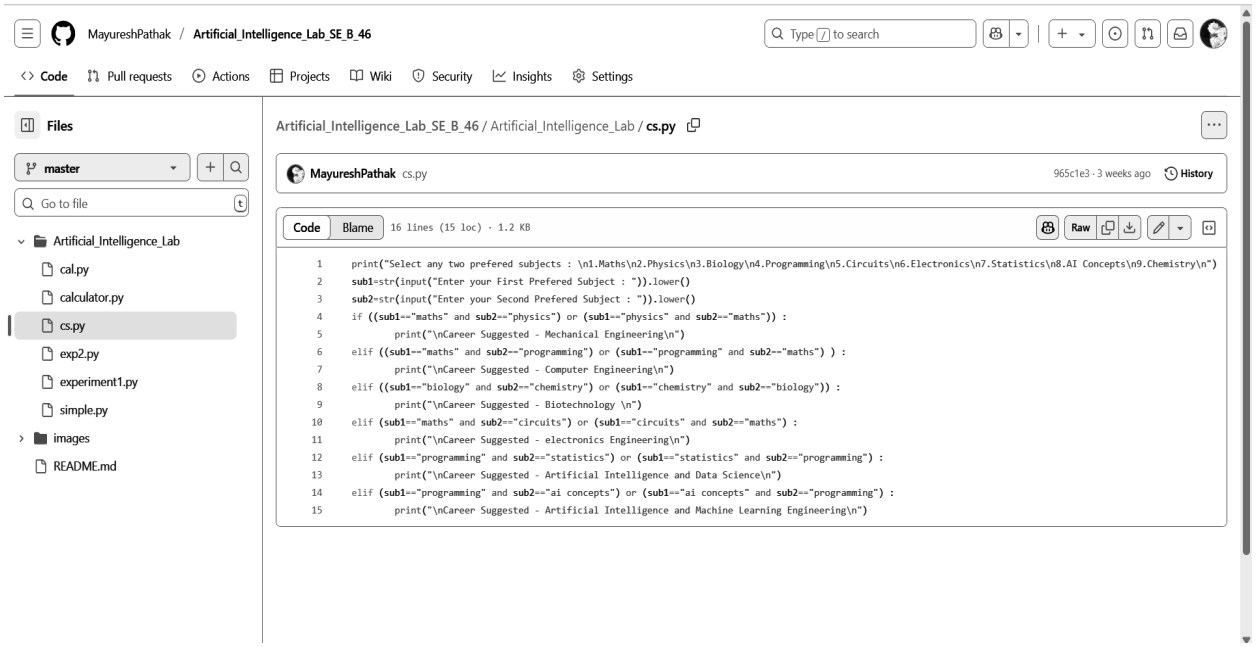
2. Career Selector using experta Module:

- Installed the experta module using pip: pip install experta
- Created a rule-based expert system using experta.Fact, KnowledgeEngine, and @Rule decorators.
- Defined rules for various career paths.
- Created a user interface to input preferences and trigger the engine.
- Ran and validated the output for multiple user profiles.

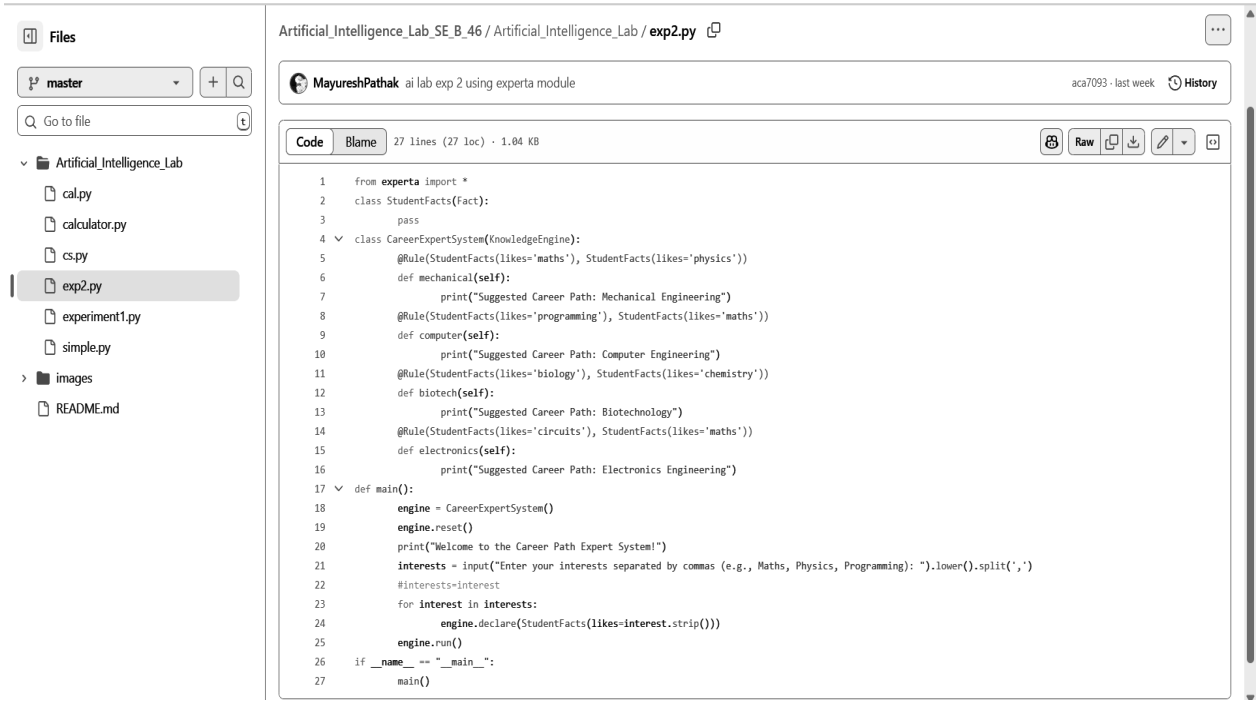
Output Screenshots :

Note: Attach the following screenshots below this section in your document:

1. Screenshot of the if-else version code and output.



2. Screenshot of the experta version code.



3. Screenshot of program output for sample inputs.

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Select any two prefered subjects :
1.Maths
2.Physics
3.Biology
4.Programming
5.Circuits
6.Electronics
7.Statistics
8.AI Concepts
9.Chemistry

Enter your First Prefered Subject : programming
Enter your Second Prefered Subject : statistics

Career Suggested - Artificial Intelligence and Data
    Science


=== Code Execution Successful ===
```

Conclusion : This practical enhanced my understanding of how rule-based systems operate and how they can be used to simulate expert decision-making. Implementing the same logic using both if-else and experta helped me appreciate the importance of modular and scalable