Fr. Conceicao Rodrigues College of Engineering Fr.
Agnel Ashram, Bandstand, Bandra (W), Mumbai -
400050

Department of Computer Engineering

Academic Term II: 23-24

Class: B.E (Computer), Sem – VI Subject Name: Artificial Intelligence Student

Name: Sumit Sanjay Rai **Roll No: 9570**

Practical No:	**9**
Title:	Simple Prototype for expert system
Date of Performance:	**01/03/2024**
Date of Submission:	**06/04/2024**

Rubrics for Evaluation:

Sr. No	**Performance Indicator**	**Excellent**	**Good**	**Below Average**	**Marks**
1	On time Completion & Submission (01)	01 (On Time)	NA	00 (Not on Time)	
2	Logic/Algorithm Complexity analysis (03)	03(Correct)	02(Partial)	01 (Tried)	
3	Coding Standards (03): Comments/indention/Naming conventions Test Cases /Output	03(All used)	02 (Partial)	01 (rarely followed)	
4	Post Lab Assignment (03)	03(done well)	2 (Partially Correct)	1(submitted)	
Total					

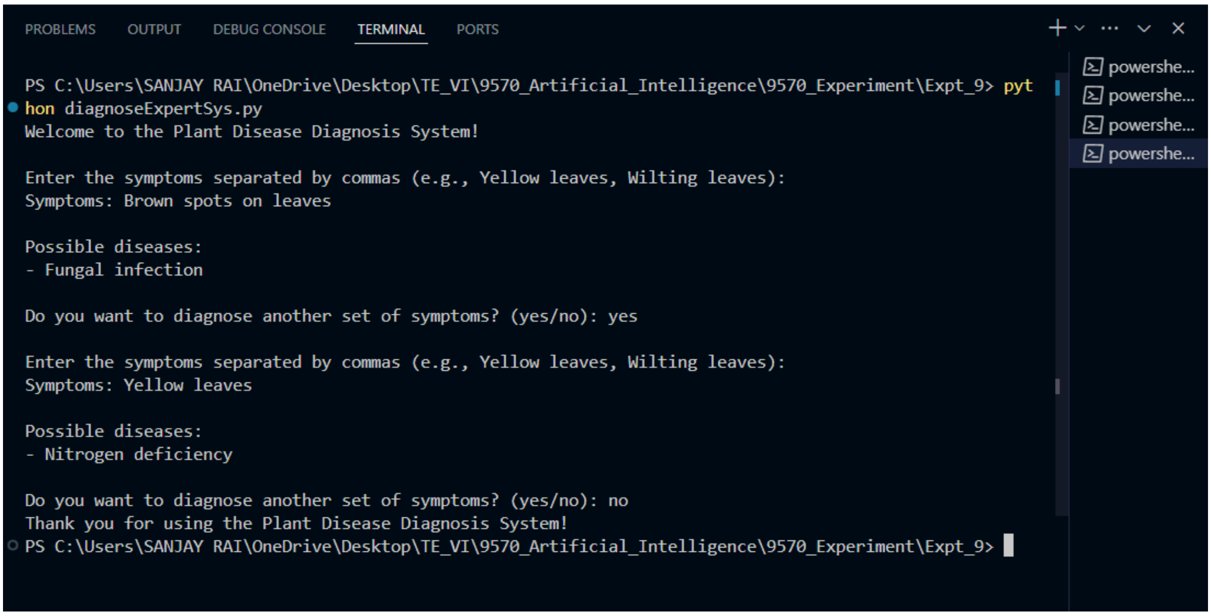
Signature of the Teacher:

Plant Diagnosis Expert System.
Source code:

```
class ExpertSystem:
    def __init__(self):
        self.knowledge_base = {
            'Yellow leaves': 'Nitrogen deficiency',
            'Brown spots on leaves': 'Fungal infection',
            'Wilting leaves': 'Watering issues',
            'White powdery substance on leaves': 'Powdery mildew'
        }

    def diagnose(self, symptoms):
        possible_diseases = []
        for symptom, disease in self.knowledge_base.items():
            if symptom in symptoms:
                possible_diseases.append(disease)
        return possible_diseases

class UserInterface:
    def __init__(self):
        self.expert_system = ExpertSystem()

    def start(self):
        print("Welcome to the Plant Disease Diagnosis System!")
        while True:
            print("\nEnter the symptoms separated by commas (e.g., Yellow leaves, Wilting
leaves):")
            user_input = input("Symptoms: ")
            symptoms = [s.strip() for s in user_input.split(',')]
            diagnoses = self.expert_system.diagnose(symptoms)
            if diagnoses:
                print("\nPossible diseases:")
                for disease in diagnoses:
                    print(f"- {disease}")
            else:
                print("\nNo diagnosis could be made based on the symptoms provided.")

            choice = input("\nDo you want to diagnose another set of symptoms? (yes/no):
").lower()
            if choice != 'yes':
                print("Thank you for using the Plant Disease Diagnosis System!")
                break

# Example usage:
def main():
    ui = UserInterface()
    ui.start()
```

```
if __name__ == "__main__":
    main()
```

Output:



```
PS C:\Users\SANJAY RAI\OneDrive\Desktop\TE_VI\9570_Artificial_Intelligence\9570_Experiment\Expt_9> pyt
hon diagnoseExpertSys.py
Welcome to the Plant Disease Diagnosis System!

Enter the symptoms separated by commas (e.g., Yellow leaves, Wilting leaves):
Symptoms: Brown spots on leaves

Possible diseases:
- Fungal infection

Do you want to diagnose another set of symptoms? (yes/no): yes

Enter the symptoms separated by commas (e.g., Yellow leaves, Wilting leaves):
Symptoms: Yellow leaves

Possible diseases:
- Nitrogen deficiency

Do you want to diagnose another set of symptoms? (yes/no): no
Thank you for using the Plant Disease Diagnosis System!
PS C:\Users\SANJAY RAI\OneDrive\Desktop\TE_VI\9570_Artificial_Intelligence\9570_Experiment\Expt_9> 
```