



PAFr. Conceicao Rodrigues College of Engineering Fr.  
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**Department of Computer Engineering Academic**  
**Term II: 23-24**

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

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**Roll No: 9565**

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

**Rubrics for Evaluation:**

<b>Sr. N o</b>	<b>Performance Indicator</b>	<b>Excellent</b>	<b>Good</b>	<b>Below Average</b>	<b>Marks</b>
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/indentation/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)	
<b>Total</b>					

**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.")

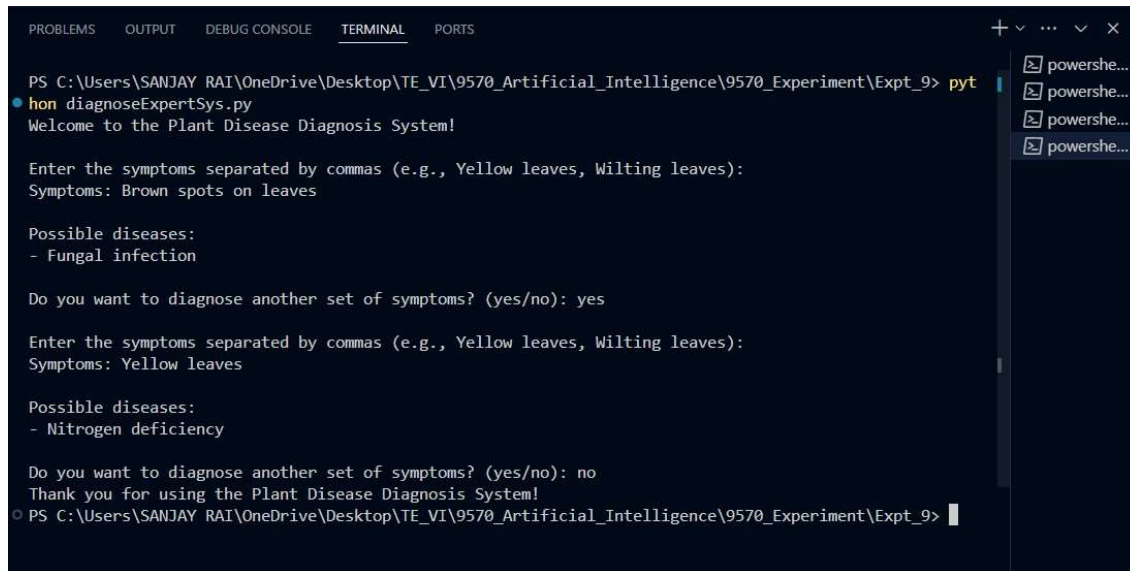
            choice = input("\nDo you want to diagnose another set of symptoms? (yes/no): ")
            if choice.lower() != 'yes':
                print("Thank you for using the Plant Disease Diagnosis System!")
                break

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

```

```
if __name__ ==
```

```
"__main__": main() Output:
```



The screenshot shows a Windows terminal window with a dark background. The title bar includes tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL (selected), and PORTS. The terminal content shows a PowerShell prompt at a specific file path, followed by the execution of a Python script named 'diagnoseExpertSys.py'. The script's output includes a welcome message, a prompt for symptoms, the input 'Brown spots on leaves', a list of possible diseases (Fungal infection), a prompt to diagnose more symptoms (yes), the input 'Yellow leaves', another list of possible diseases (Nitrogen deficiency), a prompt to diagnose more symptoms (no), and a thank you message. The terminal ends with the PowerShell prompt again. On the right side of the terminal window, there is a vertical stack of four 'powershe...' icons.

```
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>
```