Coding

Phase 3:

import datetime

class Crop:

def \_init\_(self, name, planting\_date):

self.name = name

self.planting\_date = planting\_date

self.pests = []

def add\_pest(self, pest\_name, severity):

self.pests.append((pest\_name, severity))

def report(self):

print(f"\n{self.name} ({self.planting\_date}):")

if self.pests:

for pest, severity in self.pests:

print(f" {pest} (Severity: {severity}/10)")

else:

print(" - No pests detected.")

# Main program

if \_name\_ == "\_main\_":

crop1 = Crop("Rice", datetime.date(2025, 3, 10))

crop2 = Crop("Wheat", datetime.date(2025, 2, 20))

crop1.add\_pest("Locust", 8)

crop2.add\_pest("Aphid", 5)

# Display reports

crop1.report()

crop2.report()

phase 4:

# Basic pest and crop info

pests = {

"aphids": ("wheat", "Use neem oil."),

"bollworm": ("cotton", "Use Bt spray."),

"stem borer": ("rice", "Use light traps."),

"whiteflies": ("tomato", "Use yellow sticky traps.")

}

# Input from user

crop = input("Enter the crop: ").lower()

pest = input("Enter the pest you see: ").lower()

# Check and respond

if pest in pests:

affected\_crop, treatment = pests[pest]

if crop == affected\_crop:

print(f"\nPest '{pest}' affects '{crop}'.")

print("Suggested Treatment:", treatment)

else:

print(f"\nPest '{pest}' usually affects '{affected\_crop}', not '{crop}'")

print("Monitor the crop closely or ask an expert.")

else:

print("\nPest not found in the system. Please consult an expert.")

**phase 5:**

**import random**

**import time**

**# Simulate sensor data (temperature, humidity, soil moisture)**

**def get\_sensor\_data():**

**return round(random.uniform(20, 40), 1), round(random.uniform(30, 90), 1), round(random.uniform(10, 60), 1)**

**# Check conditions and generate alerts**

**def check\_alerts(temp, humidity, moisture):**

**if temp > 35: print("▲ High temperature!")**

**if humidity < 40: print("▲ Low humidity!")**

**if moisture < 20: print("▲ Low moisture!")**

**if temp <= 35 and humidity >= 40 and moisture >= 20: print(" All good.")**

**# Simulated pest detection (random result for illustration)**

**def check\_pest():**

**pest\_detected = random.choice([True, False])**

**if pest\_detected:**

**print(" PEST detected!")**

**else:**

**print(" No pests detected.")**

**# Monitoring function**

**def monitor():**

**while True:**

**temp, humidity, moisture = get\_sensor\_data()**

**print(f"\n Temp: {temp}°C. Humidity: {humidity}%. Moisture: {moisture}%")**

**# Check for environmental conditions and alerts**

**check\_alerts(temp, humidity, moisture)**

**# Simulated pest detection**

**check\_pest()**

**# Wait for 5 seconds before the next cycle**

**time.sleep(5)**

**# Start monitoring**

**monitor()**