

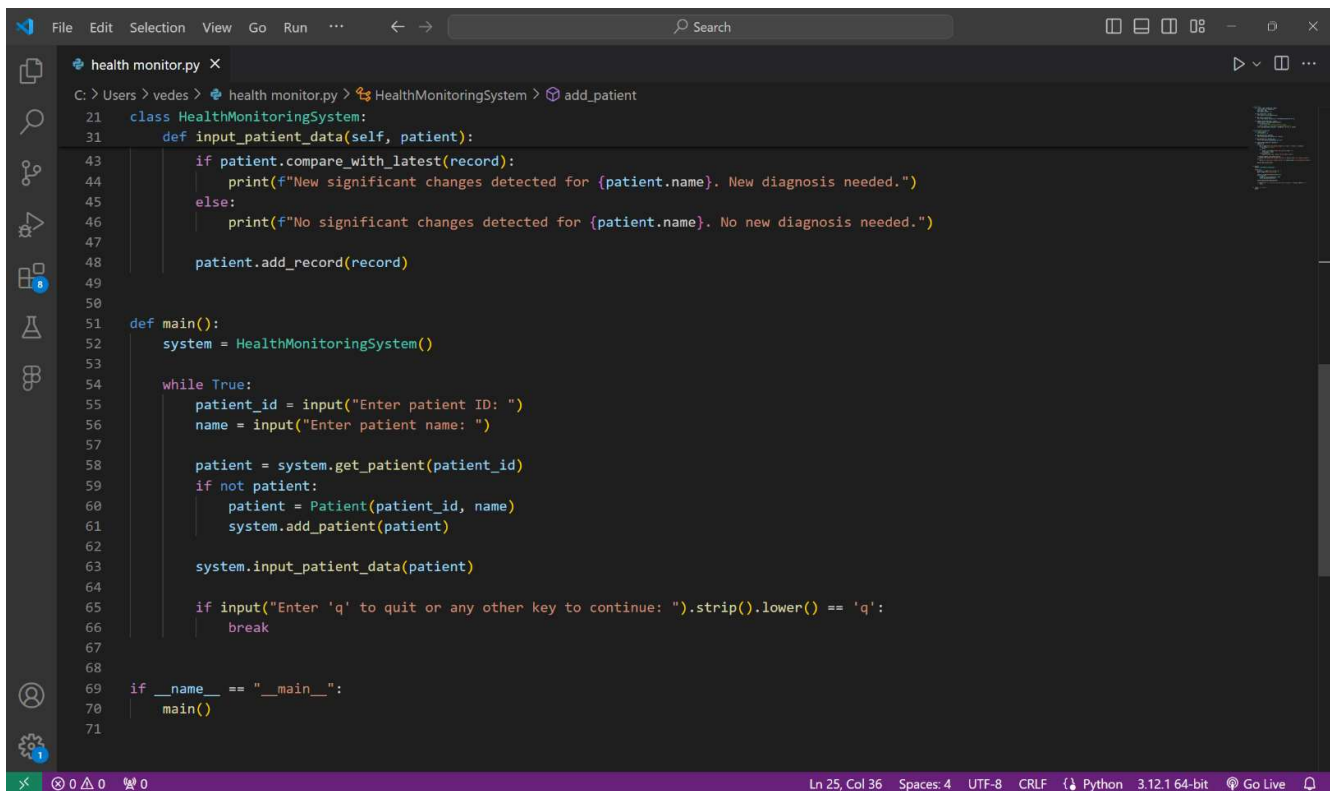
Code Snippets

```
File Edit Selection View Go Run ... Search
health monitor.py X
C: > Users > vedes > health monitor.py > HealthMonitoringSystem > add_patient

1 class Patient:
2     def __init__(self, patient_id, name):
3         self.patient_id = patient_id
4         self.name = name
5         self.health_records = []
6
7     def add_record(self, record):
8         self.health_records.append(record)
9
10    def get_latest_record(self):
11        return self.health_records[-1] if self.health_records else None
12
13    def compare_with_latest(self, record):
14        latest_record = self.get_latest_record()
15        if not latest_record:
16            return False # No previous record to compare
17        # Logic to compare current record with the latest record
18        return any(abs(latest_record[k] - record[k]) > 5 for k in record)
19
20
21 class HealthMonitoringSystem:
22     def __init__(self):
23         self.patients = {}
24
25     def add_patient(self, patient):
26         self.patients[patient.patient_id] = patient
27
28     def get_patient(self, patient_id):
29         return self.patients.get(patient_id, None)
30
31     def input_patient_data(self, patient):
32         record = {}
33         while True:
```

```
File Edit Selection View Go Run ... Search
health monitor.py X
C: > Users > vedes > health monitor.py > HealthMonitoringSystem > add_patient

21 class HealthMonitoringSystem:
31     def input_patient_data(self, patient):
34         key = input("Enter the health parameter (or 'done' to finish): ").strip()
35         if key.lower() == 'done':
36             break
37         try:
38             value = float(input(f"Enter the value for {key}: "))
39             record[key] = value
40         except ValueError:
41             print("Invalid input, please enter a numeric value.")
42
43         if patient.compare_with_latest(record):
44             print(f"New significant changes detected for {patient.name}. New diagnosis needed.")
45         else:
46             print(f"No significant changes detected for {patient.name}. No new diagnosis needed.")
47
48         patient.add_record(record)
49
50
51 def main():
52     system = HealthMonitoringSystem()
53
54     while True:
55         patient_id = input("Enter patient ID: ")
56         name = input("Enter patient name: ")
57
58         patient = system.get_patient(patient_id)
59         if not patient:
60             patient = Patient(patient_id, name)
61             system.add_patient(patient)
62
63         system.input_patient_data(patient)
64
```



```
health_monitor.py
C: > Users > vedes > health_monitor.py > HealthMonitoringSystem > add_patient
21 class HealthMonitoringSystem:
31     def input_patient_data(self, patient):
43         if patient.compare_with_latest(record):
44             print(f"New significant changes detected for {patient.name}. New diagnosis needed.")
45         else:
46             print(f"No significant changes detected for {patient.name}. No new diagnosis needed.")
47
48         patient.add_record(record)
49
50
51 def main():
52     system = HealthMonitoringSystem()
53
54     while True:
55         patient_id = input("Enter patient ID: ")
56         name = input("Enter patient name: ")
57
58         patient = system.get_patient(patient_id)
59         if not patient:
60             patient = Patient(patient_id, name)
61             system.add_patient(patient)
62
63         system.input_patient_data(patient)
64
65         if input("Enter 'q' to quit or any other key to continue: ").strip().lower() == 'q':
66             break
67
68
69 if __name__ == "__main__":
70     main()
71
```

This is how the implementation works:

Example Implementation:

Let's say the program runs with the following user input:

1. **Patient ID:** 348
2. **Patient Name:** Dhanya
3. **Health Parameter 1:** Blood Pressure = 120
4. **Health Parameter 2:** Oxygen = 98
5. **Health Parameter 3:** Glucose Levels = 120
6. **Done Inputting Parameters?** Yes
7. **Result:** "No significant changes detected for Dhanya. No new diagnosis needed."

If John Doe visits again and the following data is entered:

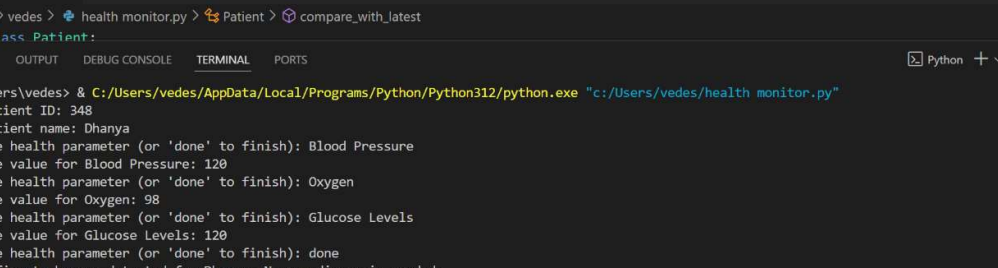
1. **Patient ID:** 348
2. **Patient Name:** Dhanya
3. **Health Parameter 1:** Blood Pressure = 124 (Changed)
4. **Health Parameter 2:** Oxygen = 79 (Changed)
5. **Health Parameter 3:** Glucose Levels = 90 (Changed)

6. **Done Inputting Parameters?** Yes

7. **Result:** "New significant changes detected for Dhanya. New diagnosis needed."

Code Implementation:

The image shows a screenshot of a Python IDE interface. At the top, there is a menu bar with options: File, Edit, Selection, View, Go, Run, and a search icon. Below the menu bar, the file explorer on the left shows a project structure with a file named 'health monitor.py'. The main editor area displays the code for 'health monitor.py', which includes a class definition for 'Patient' and a method 'compare_with_latest'. The terminal window at the bottom shows the execution of the program, with prompts for patient ID, name, and health parameters (Blood Pressure, Oxygen, Glucose Levels) and their corresponding values entered by the user. The status bar at the bottom indicates the current line and column (Ln 15, Col 30), the number of spaces (4), the encoding (UTF-8), and the Python version (3.12.1 64-bit).



The screenshot shows a VS Code editor with a file named `health_monitor.py` open. The file content is a Python class `Patient` with methods `enter_data` and `check_health`. The terminal window shows the execution of the script, which prompts the user to enter patient data and checks for significant changes. The output shows two patients, Dhanya and Kalyan, with their respective health parameters and the results of the health check.

```
health_monitor.py X
C: > Users > vedes > health_monitor.py Patient > compare_with_latest
1 class Patient:
    def enter_data(self):
        self.id = input("Enter patient ID: ")
        self.name = input("Enter patient name: ")
        self.blood_pressure = input("Enter the health parameter (or 'done' to finish): Blood Pressure")
        self.oxygen = input("Enter the value for Blood Pressure: ")
        self.glucose_levels = input("Enter the health parameter (or 'done' to finish): Oxygen")
        self.heamoglobin = input("Enter the value for Oxygen: ")
        self.check_health()
    def check_health(self):
        self.blood_pressure = input("Enter the health parameter (or 'done' to finish): Glucose Levels")
        self.oxygen = input("Enter the value for Glucose Levels: ")
        self.glucose_levels = input("Enter the health parameter (or 'done' to finish): done")
        self.heamoglobin = input("No significant changes detected for Dhanya. No new diagnosis needed.")
        self.check_health()
        self.id = input("Enter 'q' to quit or any other key to continue: ")
        self.name = input("Enter patient ID: ")
        self.blood_pressure = input("Enter patient name: ")
        self.oxygen = input("Enter the health parameter (or 'done' to finish): Heamoglobin")
        self.glucose_levels = input("Enter the value for Heamoglobin: ")
        self.heamoglobin = input("Enter the health parameter (or 'done' to finish): Blood Pressure")
        self.check_health()
        self.id = input("Enter the value for Blood Pressure: ")
        self.name = input("Enter the health parameter (or 'done' to finish): done")
        self.blood_pressure = input("No significant changes detected for Kalyan. No new diagnosis needed.")
        self.check_health()
        self.id = input("Enter 'q' to quit or any other key to continue: ")
        self.name = input("Enter patient ID: ")
        self.blood_pressure = input("Enter patient name: ")
        self.oxygen = input("Enter the health parameter (or 'done' to finish): Blood Pressure")
        self.glucose_levels = input("Enter the value for Blood Pressure: ")
        self.heamoglobin = input("Enter the health parameter (or 'done' to finish): Oxygen")
        self.check_health()
        self.id = input("Enter the value for Oxygen: ")
        self.name = input("Enter the health parameter (or 'done' to finish): Glucose Levels")
        self.blood_pressure = input("Enter the value for Glucose Levels: ")
        self.heamoglobin = input("Enter the health parameter (or 'done' to finish): done")
        self.check_health()
        self.id = input("New significant changes detected for Dhanya. New diagnosis needed.")
        self.check_health()
        self.id = input("Enter 'q' to quit or any other key to continue: q")
        self.name = input("PS C:\Users\vedes>")
```

