

Output :

```
Welcome to the Healthcare Diagnostics System
Enter your name: mirshan,
Hi mirshan,, I will assist you in checking your symptoms.

Please describe your symptom (e.g., fever, cough, headache): fever

Analyzing your symptom...
Diagnosis Suggestion: You may have a viral infection. Take rest and stay hydrated.

Would you like to check simulated vitals from IoT devices? (yes/no): yes

IoT Readings:
Temperature: 102.6°F
Heart Rate: 89 bpm
SpO2: 93%
Diagnostic data securely logged (simulated blockchain).

Please rate your experience from 1 (poor) to 5 (excellent): 5
Thank you for your feedback!
```



9:08

LTE 89

phase 4 healthcare diagno... ▾

Done

```
plt.bar(labels, values, color=['red', 'blue', 'green', 'purple'])
plt.title('Patient Vital Statistics')
plt.xlabel('Measurement Units')
plt.show()

# ===== Main Execution =====
def main():
    print("=== Healthcare Diagnostics and Treatment System ===")
    chatbot = ChatBot()
    ai_model = AIDiagnosis()
    blockchain = BlockchainSecurity()

    # Chatbot Interaction
    lang = input("Select language (english/hindi/tamil): ")
    print("Bot:", chatbot.respond(lang))

    # IoT Data
    heart_rate_device = IoTDevice("heart_rate")
    glucose_device = IoTDevice("glucose")
    bp_device = IoTDevice("bp")

    hr = heart_rate_device.read()
    gl = glucose_device.read()
    bp = bp_device.read()

    print("\n--- IoT Sensor Data ---")
    print(f"Heart Rate: {hr} bpm")
    print(f"Glucose Level: {gl} mg/dL")
    print(f"Blood Pressure: {bp['systolic']}/{bp['diastolic']} mmHg")

    # Predict disease
    features = [hr / 100, gl / 200, bp['systolic'] / 150, bp['diastolic'] / 100]
    diagnosis = ai_model.predict_disease(features)
    diagnosis_text = "Disease Detected" if diagnosis else "No Disease"
    print("\nDiagnosis:", diagnosis_text)

    # Blockchain storage
    patient_data = {
        "heart_rate": hr,
        "glucose": gl,
        "blood_pressure": bp,
        "diagnosis": diagnosis_text
    }
    blockchain.store(patient_data)
    print("Data stored securely in blockchain ledger.")

    # Show graph
    show_graph(hr, gl, bp)

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

Copy of Healthcare diagnostic and treatment.ipynb

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Q Commands + Code + Text

```
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9:09

LTE 89

PHASE-5



Ringer

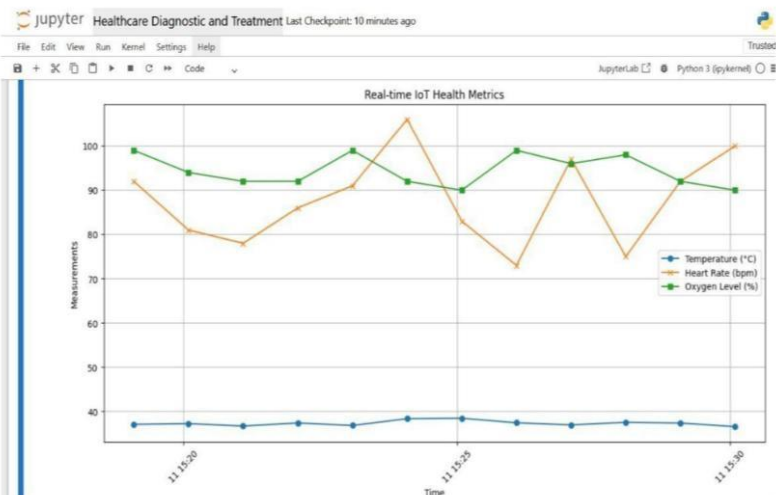


Done

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output:



Github Repository link:

<https://github.com/riaz07-dev/healthcare-diagnostics-and-treatment.git>

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9:09

LTE 89

PHASE-5 HEALTHCARE D... ▾

Done

```
# Treatment
top_condition = diagnosis_results[0][0]
treatments = suggest_treatment(top_condition)
print(f"\nSuggested Treatment for {top_condition}:")
for step in treatments:
    print(f"• {step}")

# Simulate and Plot IoT data
iot_df = generate_iot_data(minutes=12)
print("\nSample IoT Health Data:\n", iot_df.head())
plot_vitals(iot_df)
```

output:

jupyter Healthcare Diagnostic and Treatment Last Checkpoint: 10 minutes ago

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Patient Symptoms: ['fever', 'cough', 'fatigue']

Diagnosis (Most Likely First):

- Flu (Score: 2)
- COVID-19 (Score: 2)
- Bronchitis (Score: 1)
- Anemia (Score: 1)

Suggested Treatment for Flu:

- Rest
- Hydration
- Paracetamol

Sample IoT Health Data:

	Time	Temperature (°C)	Heart Rate (bpm)	\
0	2025-05-11 15:19:05.183104	37.08	92	
1	2025-05-11 15:20:05.183104	37.24	81	
2	2025-05-11 15:21:05.183104	36.70	78	
3	2025-05-11 15:22:05.183104	37.39	86	
4	2025-05-11 15:23:05.183104	36.82	91	

Oxygen Level (%)

0	99
1	94
2	92
3	92
4	99

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output:

jupyter Healthcare Diagnostic and Treatment Last Checkpoint: 10 minutes ago

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Real-time IoT Health Metrics

JupyterLab Python 3 (ipykernel)

