INTERNSHIP REPORT

ON

PYTHON COMPITATIVE CODEING

Internship Report is submitted

In accordance with requirement of degree of

BACHELOR OF TECHNOLOGY

IN

ELECTRICAL AND ELECTRONICS ENGINEERING

Submitted by

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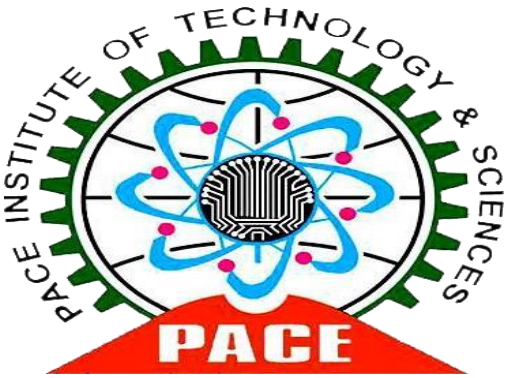
21KQ1A0278

Under the Mentorship of

SRAVAN MANTRI



DEPARTMENT OFELECTRICAL AND EL ECTRONICS ENGINEERING

PACE INSTITUTE OF TECNOLOGY AND SCIENCES (AUTONOMOUS)

(AffiliatedtoJawaharlalNehruTechnologicalUniversityKakinada,Kakinada&

Accredited by NAAC 'A' GRADE,An ISO 9001-2015 Certified Institution)

NH-16, Valluru Post , Prakasam District, A.P-523272.

(2024-2025)

PROJECT TITTLE

PATIENT PULSE ANALYSIS

Date:june 11th 2024

Name:v.kavya

ABSTRACT: This project is about brief explination and display about patient pulse analysis. In this analysis we verify how many female patients and male patients are there with there age differences and heart rate, blood pressure, sugar level differences and who has maximum and minimum heart rate and blood pressure and sugar level.

DESCRIPTION: This project is about patient pulse analysis . we take the input as the patient health details .we analysis the patient health conditions based on heart rate, blood pressure and sugar levels.

Requirements:

Functional requirements:

.patient details: user can take input as number of patients

gender: user can take gender differences and store

.condition of patient: user can take the maximum health rate and blood pressure and sugar level

Non functional requirements:

Performance: The system is provide real time analysis with minimal latency to ensure timely patient monitoring

Reliability: It should be highly dependable ensuring accurate pulse measurements consistently

Scalability: The system should be able to handle varying loads from individual patient monitoring to large scale health care facilities

Security: protecting patient data is crucial so the system must comply with health care privacy regulations and employ robust encryption methods.

Usability: The interface should be intuitive and user friendly and health care professionals to easily interpret and utilize the pulse analysis data.

Accuracy: The analysis should be highly accurate with minimal margin of error to ensure the reliability of the diagnostic information provided.

APPROACH:

1.Data acquisition: obtain the pulse data from the patient using sensors such as photo plethysmo graphy (ppg) sensors which measure changes in blood volume in the microvascular bed of tissue .

2.signal processing : pre process the raw pulse data to remove noise and artifacts and extract relevant features such as pulse rate ,pulse wave form morphology and variability .

3.Features extraction: Identify key features from the processed pulse that are indicative of the patients health status.

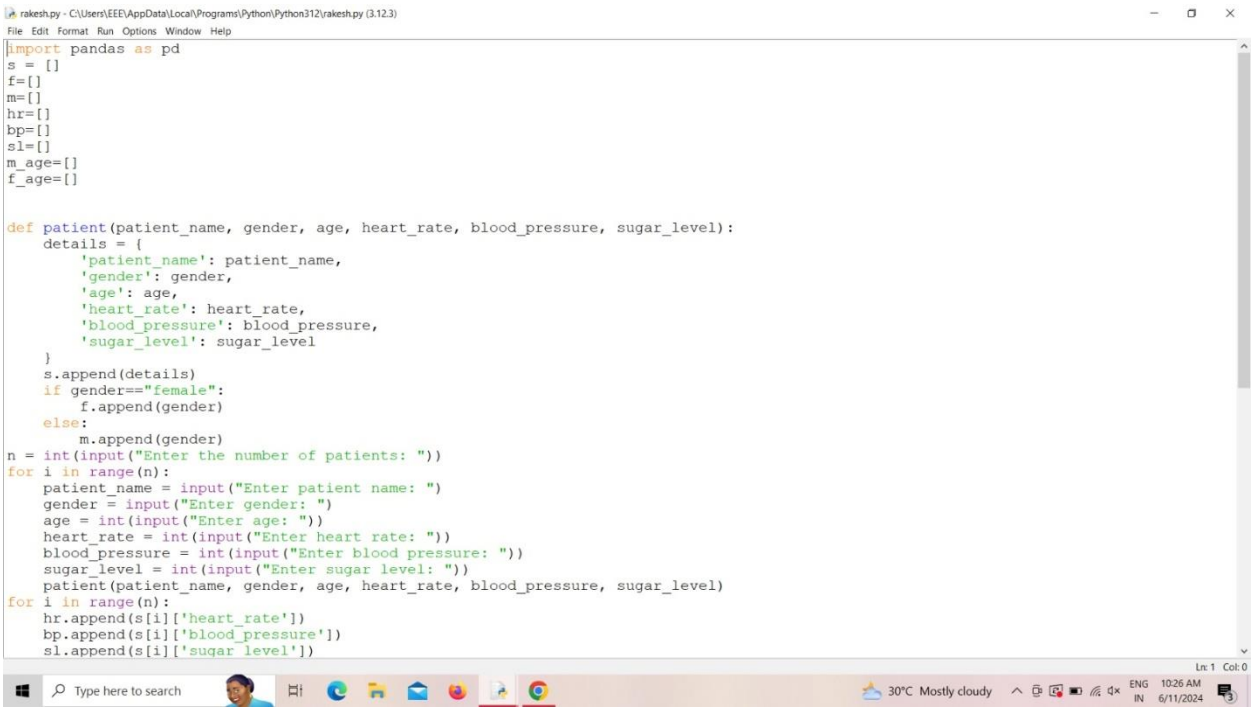
4.Pattren Recognition: Analyze the extracted features using pattern Recognition algorithms to identify patterns associated with specific health condition or anomalies

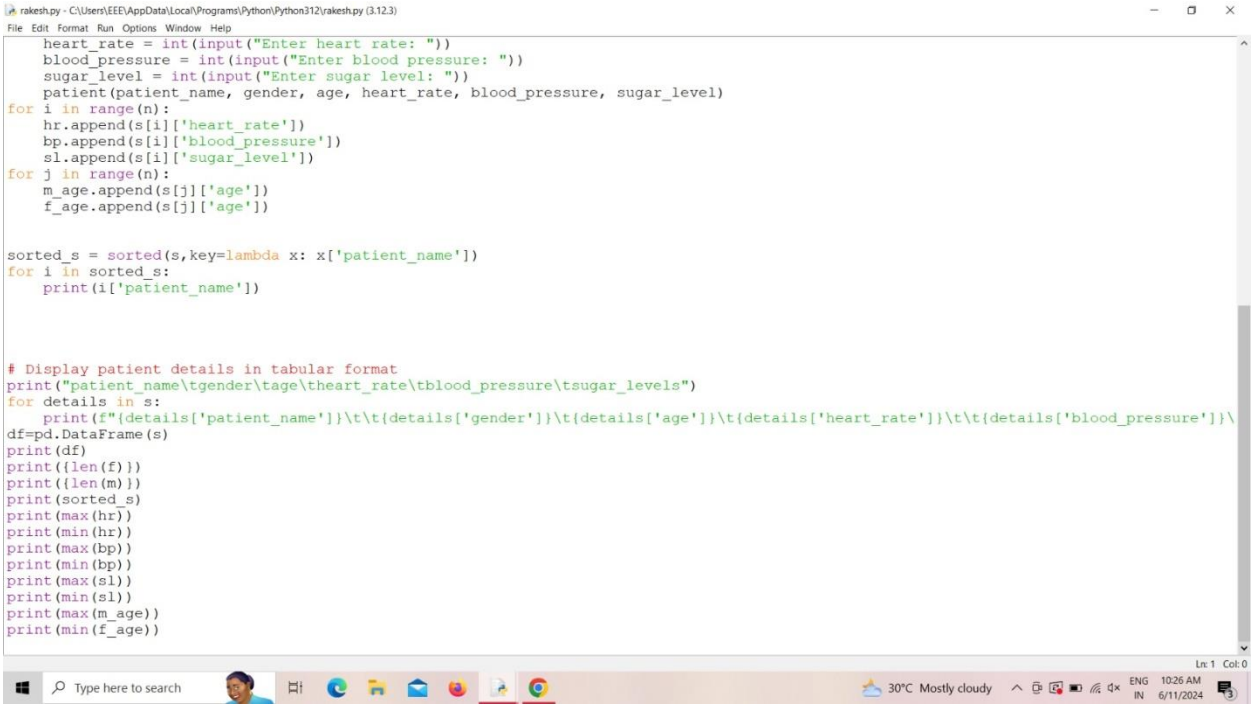
5.descriptive analytics: use statistical methods to summarize and describe historical data .This includes calculating the average health rate and blood pressure and sugar levels and other relevant matrics.

6.**Continuous monitoring**: Implement continuous monitoring machanisms to track changes in the patients pulse over time , enabling early detection of abnormalities or trends indicative of deteriorating health.

7. Coding : To perform this project to create patient health condition details and analysis of patient pulse .here we can perform a coding using python language.

Program or source code:




rakesh.py - C:\Users\EEE\AppData\Local\Programs\Python\Python312\rakesh.py (3.12.3)
File Edit Format Run Options Window Help
heart_rate = int(input("Enter heart rate: "))
blood_pressure = int(input("Enter blood pressure: "))
sugar_level = int(input("Enter sugar level: "))
patient(patient_name, gender, age, heart_rate, blood_pressure, sugar_level)
for i in range(n):
hr.append(s[i]['heart_rate'])
bp.append(s[i]['blood_pressure'])
sl.append(s[i]['sugar_level'])
for j in range(n):
m_age.append(s[j]['age'])
f_age.append(s[j]['age'])
sorted_s = sorted(s,key=lambda x: x['patient_name'])
for i in sorted_s:
print(i['patient_name'])
# Display patient details in tabular format
print("patient_name\tgender\tage\theart_rate\tblood_pressure\tsugar_levels")
for details in s:
print(f"{details['patient_name']}\t\t{details['gender']}\t{details['age']}\t{details['heart_rate']}\t\t{details['blood_pressure']}\
df=pd.DataFrame(s)
print(df)
print({len(f)})
print({len(m)})
print(sorted_s)
print(max(hr))
print(min(hr))
print(max(bp))
print(min(bp))
print(max(sl))
print(min(sl))
print(max(m_age))
print(min(f_age))
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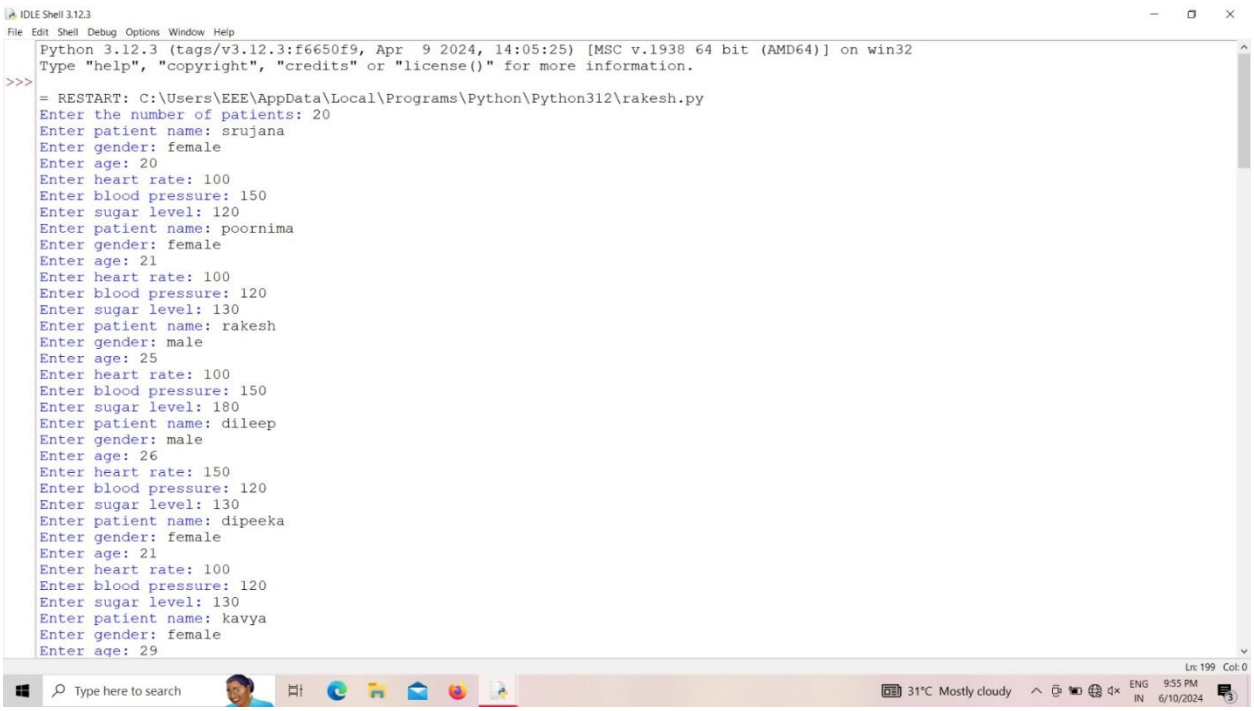
OUTPUT:


IDLE Shell 3.12.3
File Edit Shell Debug Options Window Help
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr 9 2024, 14:05:25) [MSC v.1938 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\EEE\AppData\Local\Programs\Python\Python312\rakesh.py
Enter the number of patients: 20
Enter patient name: srujana
Enter gender: female
Enter age: 20
Enter heart rate: 100
Enter blood pressure: 150
Enter sugar level: 120
Enter patient name: poornima
Enter gender: female
Enter age: 21
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: rakesh
Enter gender: male
Enter age: 25
Enter heart rate: 100
Enter blood pressure: 150
Enter sugar level: 180
Enter patient name: dileep
Enter gender: male
Enter age: 26
Enter heart rate: 150
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: dipeeka
Enter gender: female
Enter age: 21
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: kavya
Enter gender: female
Enter age: 29
Ln: 199 Col: 0
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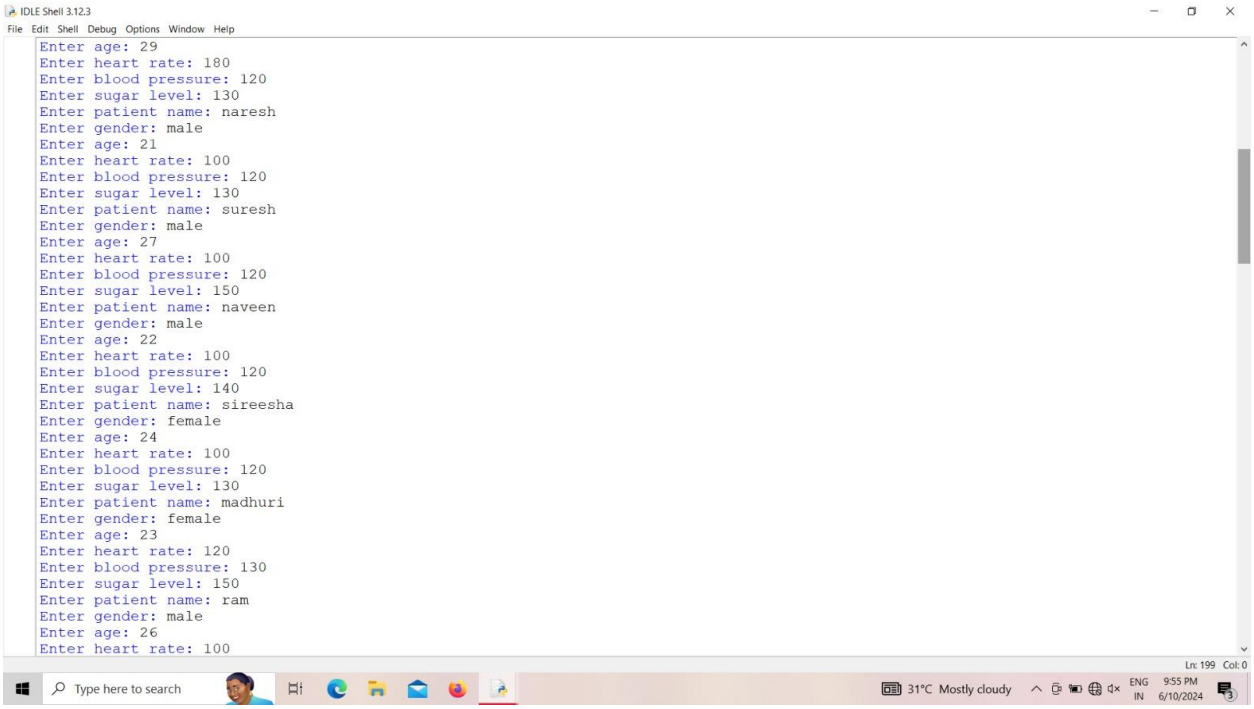
IDLE Shell 3.12.3
File Edit Shell Debug Options Window Help
Enter age: 29
Enter heart rate: 180
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: naresh
Enter gender: male
Enter age: 21
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: suresh
Enter gender: male
Enter age: 27
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 150
Enter patient name: naveen
Enter gender: male
Enter age: 22
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 140
Enter patient name: sireesha
Enter gender: female
Enter age: 24
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: madhuri
Enter gender: female
Enter age: 23
Enter heart rate: 120
Enter blood pressure: 130
Enter sugar level: 150
Enter patient name: ram
Enter gender: male
Enter age: 26
Enter heart rate: 100
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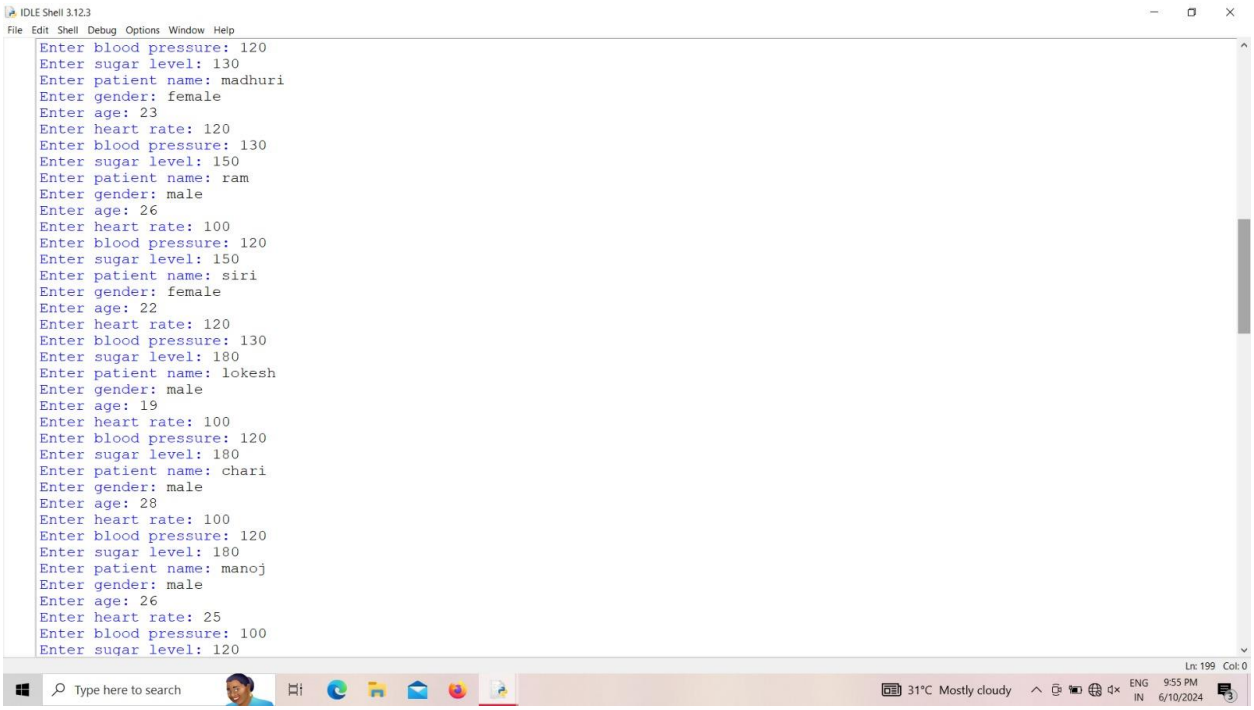
IDLE Shell 3.12.3
File Edit Shell Debug Options Window Help
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: madhuri
Enter gender: female
Enter age: 23
Enter heart rate: 120
Enter blood pressure: 130
Enter sugar level: 150
Enter patient name: ram
Enter gender: male
Enter age: 26
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 150
Enter patient name: siri
Enter gender: female
Enter age: 22
Enter heart rate: 120
Enter blood pressure: 130
Enter sugar level: 180
Enter patient name: lokesh
Enter gender: male
Enter age: 19
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 180
Enter patient name: chari
Enter gender: male
Enter age: 28
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 180
Enter patient name: manoj
Enter gender: male
Enter age: 26
Enter heart rate: 25
Enter blood pressure: 100
Enter sugar level: 120
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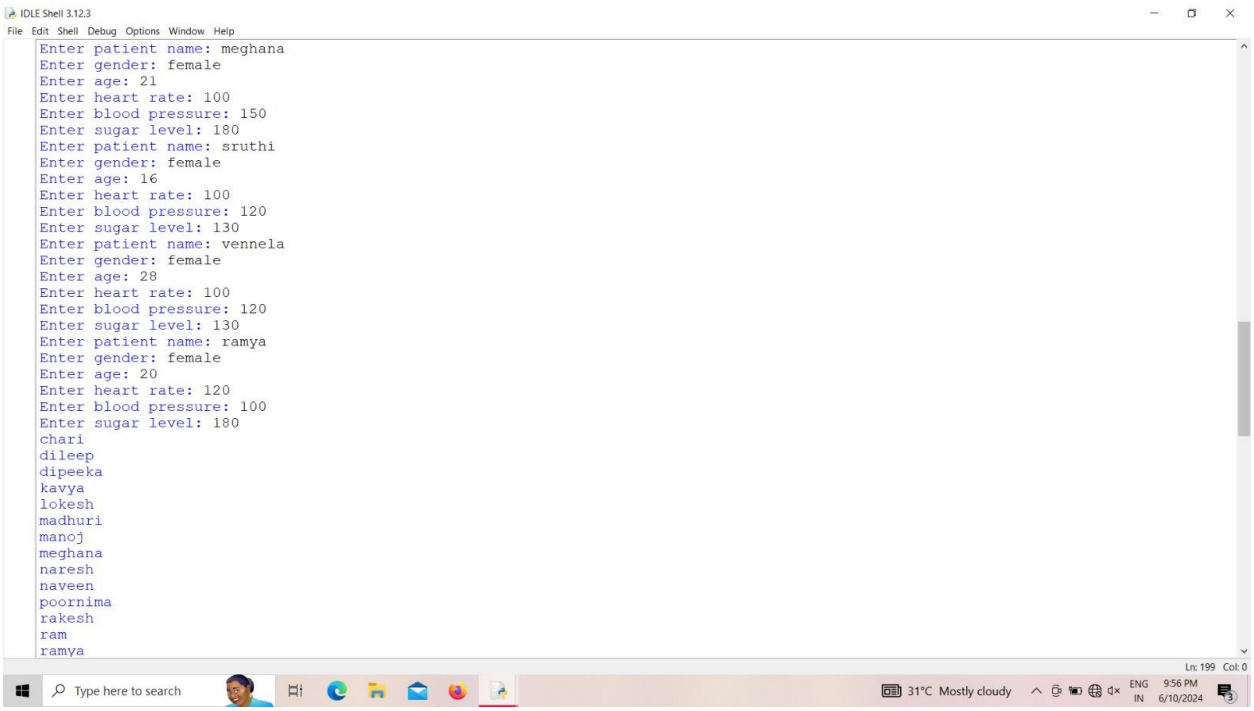
IDLE Shell 3.12.3
File Edit Shell Debug Options Window Help
Enter patient name: meghana
Enter gender: female
Enter age: 21
Enter heart rate: 100
Enter blood pressure: 150
Enter sugar level: 180
Enter patient name: sruthi
Enter gender: female
Enter age: 16
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: vennela
Enter gender: female
Enter age: 28
Enter heart rate: 100
Enter blood pressure: 120
Enter sugar level: 130
Enter patient name: ramya
Enter gender: female
Enter age: 20
Enter heart rate: 120
Enter blood pressure: 100
Enter sugar level: 180
chari
dileep
dipeeka
kavya
lokesh
madhuri
manoj
meghana
naresh
naveen
poornima
rakesh
ram
ramya
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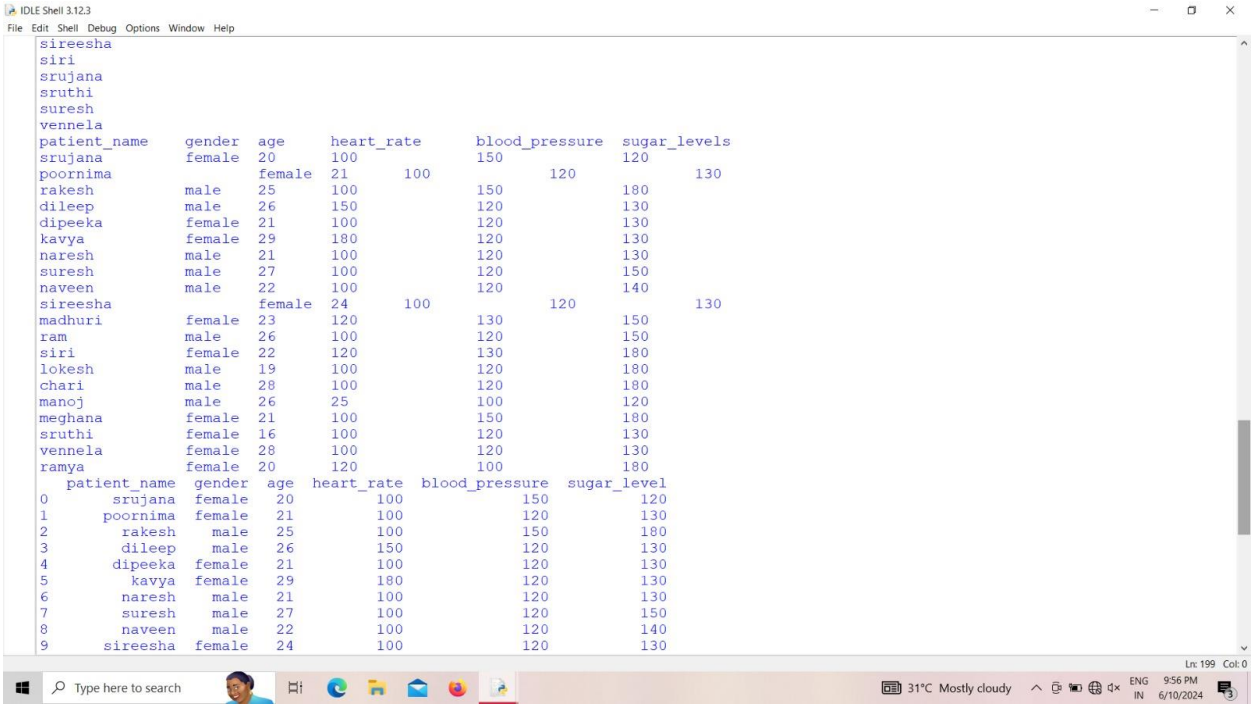
IDLE Shell 3.12.3
File Edit Shell Debug Options Window Help
sireesha
siri
srujana
sruthi
suresh
vennela
patient_name gender age heart_rate blood_pressure sugar_levels
srujana female 20 100 150 120
poornima female 21 100 120 130
rakesh male 25 100 150 180
dileep male 26 150 120 130
dipeeka female 21 100 120 130
kavya female 29 180 120 130
naresh male 21 100 120 130
suresh male 27 100 120 150
naveen male 22 100 120 140
sireesha female 24 100 120 130
madhuri female 23 120 130 150
ram male 26 100 120 150
siri female 22 120 130 180
lokesh male 19 100 120 180
chari male 28 100 120 180
manoj male 26 25 100 120
meghana female 21 100 150 180
sruthi female 16 100 120 130
vennela female 28 100 120 130
ramya female 20 120 100 180
patient_name gender age heart_rate blood_pressure sugar_level
0 srujana female 20 100 150 120
1 poornima female 21 100 120 130
2 rakesh male 25 100 150 180
3 dileep male 26 150 120 130
4 dipeeka female 21 100 120 130
5 kavya female 29 180 120 130
6 naresh male 21 100 120 130
7 suresh male 27 100 120 150
8 naveen male 22 100 120 140
9 sireesha female 24 100 120 130
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IDLE Shell 3.12.3

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```
1       poornima  female   21          100             120             130
2         rakesh    male   25          100             150             180
3         dileep    male   26          150             120             130
4        dipeeka  female   21          100             120             130
5          kavya  female   29          180             120             130
6         naresh    male   21          100             120             130
7         suresh    male   27          100             120             150
8         naveen    male   22          100             120             140
9       sireesha  female   24          100             120             130
10       madhuri  female   23          120             130             150
11           ram    male   26          100             120             150
12          siri  female   22          120             130             180
13        lokesh    male   19          100             120             180
14         chari    male   28          100             120             180
15         manoj    male   26           25             100             120
16       meghana  female   21          100             150             180
17        sruthi  female   16          100             120             130
18       vennela  female   28          100             120             130
19         ramya  female   20          120             100             180
{11}
{9}
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gar_level': 140}, {'patient_name': 'poornima', 'gender': 'female', 'age': 21, 'heart_rate': 100, 'blood_pressure': 120, 'sugar_leve
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IDLE Shell 3.12.3

File Edit Shell Debug Options Window Help

```
12          siri  female   22          120             130             180
13        lokesh    male   19          100             120             180
14         chari    male   28          100             120             180
15         manoj    male   26           25             100             120
16       meghana  female   21          100             150             180
17        sruthi  female   16          100             120             130
18       vennela  female   28          100             120             130
19         ramya  female   20          120             100             180
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{9}
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180
25
150
100
180
120
29
16
>>>
```

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Explanation:

For this progect of patient pulse analysis, we can analysis the health status of the patients and their problems.

1.User interaction: First user can analysis the patient details ,gender age, health rate ,blood pressure, sugar levels

2. How to approach: For analysis the patient pulse analysis, we approach our mentors for the process and they gauid us how to analysis of patient pulse analysis. In that gaudiness we create a source or code to make a details of the patients health condition.

Conclusion

Regular and systematic pulse analysis is vital for the early detection and management of various health conditions. This essential skill for healthcare providers requires minimal equipment and offers immediate, valuable information about a patient's cardiovascular status.