Established – 1961 Subject:_____

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CERTIFICATE

This is to certify that Mr./Ms. Sneha Pandey of S.Y. Information Technology (SYIT) Roll No. 2542031 has satisfactorily completed the Open Source DataBase Management System Mini Project entitled Old Age Home Resident Management System during the academic year 2025 – 2026, as a part of the practical requirement. The project work is found to be satisfactory and is approved for submission.

PROF. INCHARGE **HEAD OF DEPT**

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1. INTRODUCTION

The Old Age Home Resident Management System is a computerized, database-driven solution designed to systematically record, manage, and analyze information related to residents living in an old age home. The primary purpose of this system is to assist administrators and caretakers in maintaining accurate records of residents, their medical history, and payment details in a structured and efficient manner. By centralizing all information in a database, the system ensures that data is consistent, secure, and easily retrievable whenever required.

Traditionally, old age homes rely on manual registers or basic spreadsheets to store resident information. While these methods may work for small facilities, they become increasingly inefficient as the number of residents grows. Manual record-keeping is prone to errors such as duplication, missing entries, and inconsistency. Retrieving historical medical records or payment details often requires searching through multiple files, which is time-consuming and unreliable. Moreover, paper-based systems are vulnerable to physical damage, loss of records, and unauthorized access, making them unsuitable for long-term data management.

A database-driven system provides a structured solution to these challenges. By storing resident details, medical records, and payment information in relational tables, the system eliminates redundancy and ensures data integrity. Authorized users can quickly insert, update, and retrieve records using SQL queries. This not only saves time but also supports better decision-making by enabling administrators to track medical checkups, monitor payment compliance, and generate reports for management. Doctors and caretakers can also benefit from the system by accessing accurate medical histories, which helps in planning treatment and care more effectively.

MySQL has been chosen as the Database Management System (DBMS) for this project because it is open-source, cost-effective, and widely used in both academic and professional environments. MySQL supports Structured Query Language (SQL), which allows efficient data storage, retrieval, and manipulation. It also provides features such as primary keys, foreign keys, constraints, and user access control to maintain data integrity and security. Due to its scalability and compatibility with multiple platforms, MySQL is well-suited for developing and managing the Old Age Home Resident Management System.
In conclusion, the Old Age Home Resident Management System aims to replace inefficient manual processes with a reliable, secure, and structured database solution. By leveraging MySQL, the project ensures that resident information, medical records, and payment details.

2. PROBLEM DEFINITION

The existing system used in old age homes for managing resident information, medical records, and payments is largely manual, unorganized, and inefficient. Most facilities rely on paper registers or basic spreadsheets to store data, which may work for a small number of residents but quickly becomes impractical as the size of the home increases. Manual record-keeping leads to several challenges that affect accuracy, efficiency, and security of information.

One of the major problems in the current system is data redundancy and duplication. Resident information is often recorded multiple times in different files or formats, leading to unnecessary repetition. For example, a resident's medical details may be stored separately by doctors, while payment records are maintained by the administration, without proper synchronization. This not only wastes storage space but also increases the chances of conflicting information when updates are not applied consistently across all records. Another significant issue is the difficulty in tracking medical history and payments over time. Manual systems do not provide an easy way to store historical data in an organized manner. Comparing past and present medical conditions, identifying treatment trends, or checking long-term payment compliance becomes time-consuming and unreliable. As a result, caretakers and administrators struggle to make informed decisions about resident care and financial planning.

The lack of data security is also a serious concern in the existing system. Paper records and unsecured spreadsheets can be easily accessed, modified, lost, or damaged. There are usually no proper access controls or authentication mechanisms in place, which may lead to unauthorized access, data manipulation, or loss of sensitive resident information. This compromises confidentiality and trust between the residents and the management. Additionally, report generation is slow and inefficient. Preparing medical or financial reports manually requires collecting data from multiple sources, verifying accuracy, and organizing it into readable formats. This process consumes valuable time and may delay important decisions related to medical treatment, financial audits, or administrative planning. Human errors such as incorrect data entry, calculation mistakes, missing records, or mismatched information are common in manual systems, leading to unfair assessments and poor organizational management.

In summary, the current manual system used in old age homes suffers from redundancy, inconsistency, lack of security, and inefficiency in report generation. These limitations highlight the need for a structured, database-driven Old Age Home Resident Management System. By centralizing data storage, reducing duplication, improving accuracy, and enabling efficient tracking and reporting, the proposed system will significantly enhance the reliability and effectiveness of resident management.

3. OBJECTIVES OF THE PROJECT

The objective of the Old Age Home Resident Management System is to design and implement a database-driven solution that enables efficient storage, management, and analysis of resident information. The system is developed to overcome the limitations of manual record-keeping methods by providing accuracy, consistency, and ease of access to data. It focuses on creating a structured database schema, implementing SQL queries for data manipulation, and ensuring data integrity through constraints and relationships.

This project emphasizes the importance of maintaining resident details, medical records, and payment information in a centralized database. By doing so, administrators and caretakers can easily retrieve and update records without duplication or inconsistency. The system also supports decision-making by generating meaningful reports that highlight medical conditions, payment compliance, and overall resident management.

The main objectives of the project are as follows:

- **To design a structured and efficient database**
  The project aims to create a well-organized schema that logically stores resident details, medical records, and payment information. This reduces redundancy and ensures that all data is properly linked through relationships.

- **To store resident and medical details efficiently**
  The system maintains resident information such as name, age, gender, and admission date, along with medical conditions and checkup history. Payment records are also stored in a centralized manner for easy tracking.

- **To implement SQL queries for data manipulation**
  SQL commands are used to insert, update, and retrieve resident data accurately. Queries such as SELECT, JOIN, GROUP BY, and HAVING help in analyzing records and generating reports.

- **To ensure data integrity and consistency**
  Constraints such as primary keys, foreign keys, NOT NULL, and UNIQUE are applied to prevent duplication and maintain accuracy. Referential integrity ensures that medical and payment records are always linked to valid residents.

- **To generate performance and management reports**
  The system produces useful reports that help administrators monitor medical conditions, payment compliance, and resident statistics. These reports support decisions related to healthcare planning and financial management.

4. SCOPE OF THE PROJECT

The scope of the Old Age Home Resident Management System defines the boundaries and extent of the project. This system is designed to support administrators, caretakers, and management staff in efficiently handling resident information, medical records, and payment details using a structured, database-driven approach. The project focuses on database design and SQL implementation rather than user interface development, ensuring that the core functionality of data storage, retrieval, and reporting is achieved.

The system provides a centralized database that stores resident details such as name, age, gender, and admission date, along with medical conditions, checkup history, and payment records. By maintaining all information in a single database, the system ensures accuracy, consistency, and easy access to data. Authorized users can insert, update, and retrieve records quickly, which helps in reducing redundancy and improving efficiency.

Users of the System

- **Admin/Warden**: Responsible for managing *resident records*, entering admission details, updating medical information, and maintaining payment records. The admin has full access to the system for data insertion, modification, and report generation.
- **Doctors/Caretakers**: Responsible for recording *medical conditions*, checkup dates, and treatment details of residents. They can update medical records and view resident history to provide better healthcare.
- **Management**: Primarily uses the system to access reports and summaries. These reports help in analyzing resident statistics, monitoring *medical conditions*, and tracking financial compliance.

Usage Areas

The Old Age Home Resident Management System can be effectively used in various organizational environments, including:

- **Old Age Homes**: To maintain accurate records of residents, their medical history, and payments.
- **NGOs and Charitable Organizations**: To manage beneficiaries and ensure transparency in healthcare and financial support.
- **Healthcare Centers**: To track patient records, medical treatments, and billing information in a structured manner.

Limitations of the Project

- The project focuses only on database design and SQL queries without developing a graphical user interface.
- No web or mobile interface is included; all operations are performed at the database level.
- The medical conditions and payment structures are predefined and cannot be dynamically modified within the scope of this project.

5. REQUIREMENT SPECIFICATION

This section describes the hardware and software requirements needed to develop and run the Old Age Home Resident Mangement System.

1. Hardware Requirements

The following hardware components are required for the implementation of the system:

- Computer / Laptop – Used for development and execution of the database system
- Minimum 4 GB RAM – Required for smooth operation of MySQL Server and Workbench
- Minimum 20 GB Free Storage – Required for database storage, backups, and system files

2. Software Requirements

The following software tools are required for the development and execution of the system:

Software	Purpose
MySQL Server	Database management
MySQL Workbench	Query execution and database administration
Operating System	Windows / Linux
SQL	Query language for database operations

These hardware and software requirements ensure the proper functioning, performance, and reliability of the Old Age Home Resident Mangement System.

6. SYSTEM DESIGN

The system design of the Old Age Home Resident Management System defines how the database is structured and how different users interact with it to perform their tasks. The design focuses on creating a simple, reliable, and well-organized database solution that ensures efficient storage, retrieval, and management of resident information, medical records, and payment details.

The system follows a database-driven architecture where all operations are performed using SQL queries executed on the MySQL Server. The conceptual workflow of the system can be described as follows:

6.1 System Architecture

The system follows a simple database-driven architecture that ensures efficient management of employee performance data. The conceptual workflow of the system can be described as follows:

.

- **Doctor Interaction**
  Doctors record medical conditions and checkup details of residents. They can update medical records and view resident history for healthcare planning.
- **Admin / Warden Interaction**
  The Admin interact with the system primarily through SQL queries. They can't insert,update, or retrieve resident,medical,and payment records as required
- **Query Processing by MySQL Server**
  The MySQL Server receives and processes all queries sent by users. It performs necessary operations on the database, ensuring accuracy and consistency of the data.
- **Data Storage in Structured Tables**
  All resident details, medical records, and payment information are stored in structured tables. This ensures proper organization, avoids redundancy, and allows efficient retrieval of information.

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Output Display

The results of queries are retrieved and displayed in tabular format, making it easy to read and analyze resident data.

7.DATABASE DESIGN

7.1 Entity Description

Residents

The Residents entity stores personal details of each resident living in the old age home. It includes information such as resident identification number, name, age, gender, and admission date. This entity is central to the system, as medical records and payments are directly associated with individual residents.

Medical_Records

The Medical_Records entity stores health-related information of residents. It includes details such as record identification number, resident reference, medical condition, and last checkup date. This entity helps in tracking the medical history of each resident and supports health management.

Payments

The Payments entity stores financial information related to residents. It includes payment identification number, resident reference, payment amount, and payment date. This entity ensures that all financial transactions are properly recorded and linked to the respective resident.

7.2 Table Structure

The database of the Old Age Home Resident Management System consists of the following tables:

Residents Table

This table stores personal details of each residents.

Attribute Name	Data Type	Description
Resident_ID	INT	Primary Key, uniquely identifies each resident
Name	VARCHAR	Full name of the resident
Age	INT	Age of the resident
Gender	VARCHAR	Gender of the resident
Addmission_Date	DATE	Date when the residnet was admitted

Medical_Records Table

This table stores health-related information of the residents.

Attribute Name	Data Type	Description
Record_ID	INT	Primary Key, uniquely identifies each record

Resident_ID	INT	Reference to the resident in Residents table
Condition	VARCHAR	Medical condition of the resident
Last_Checkup	Date	Date of the last medical checkup

Payment Table

This table stores Financial information to related residents.

Attribute Name	Data Type	Description
Payment_ID	INT	Primary Key, uniquely identifies each payment
Resident_ID	INT	Refrence to the resident in Residents table
Amount	Decimal	Payment amount made by the resident
Payment_Date	Date	Date when the payment

7.3 Constraints Used

Constraints are used to maintain data integrity and consistency in the database.

- **PRIMARY KEY**
  Ensures that each record in a table is uniquely identified and prevents duplicate entries.

- **FOREIGN KEY**
  Maintains relationships between tables and ensures referential integrity between related records.

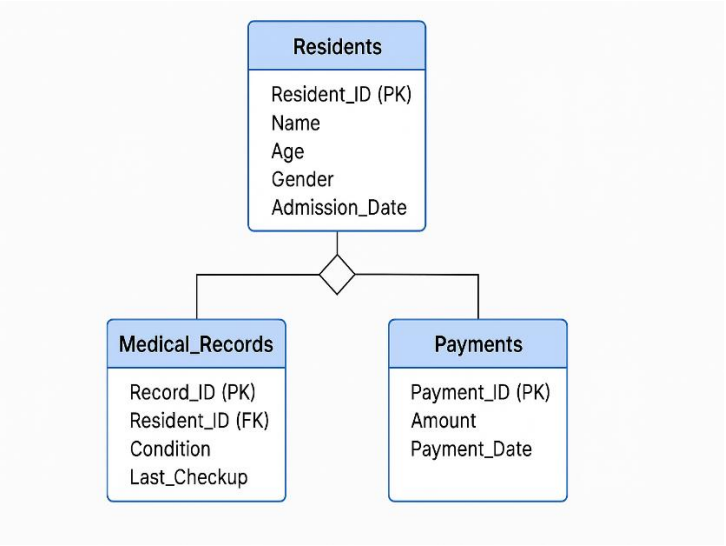
- **NOT NULL**
  Ensures that mandatory fields always contain values and cannot be left empty.

- **UNIQUE**
  Prevents duplicate values in specific columns and maintains data uniqueness.

This structured database design ensures accurate data storage, efficient retrieval, and reliable employee performance evaluation.

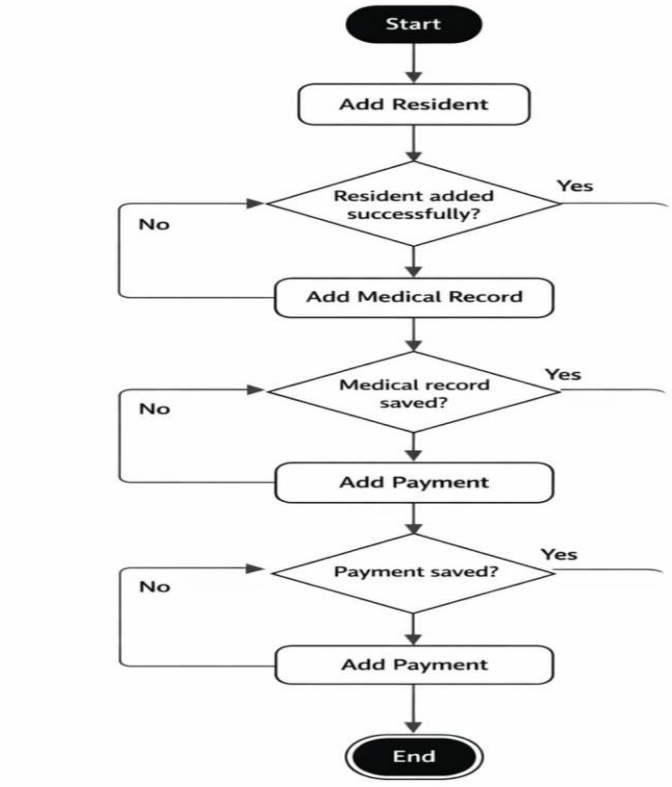
8. UML DIAGRAMS

a. ER Diagram



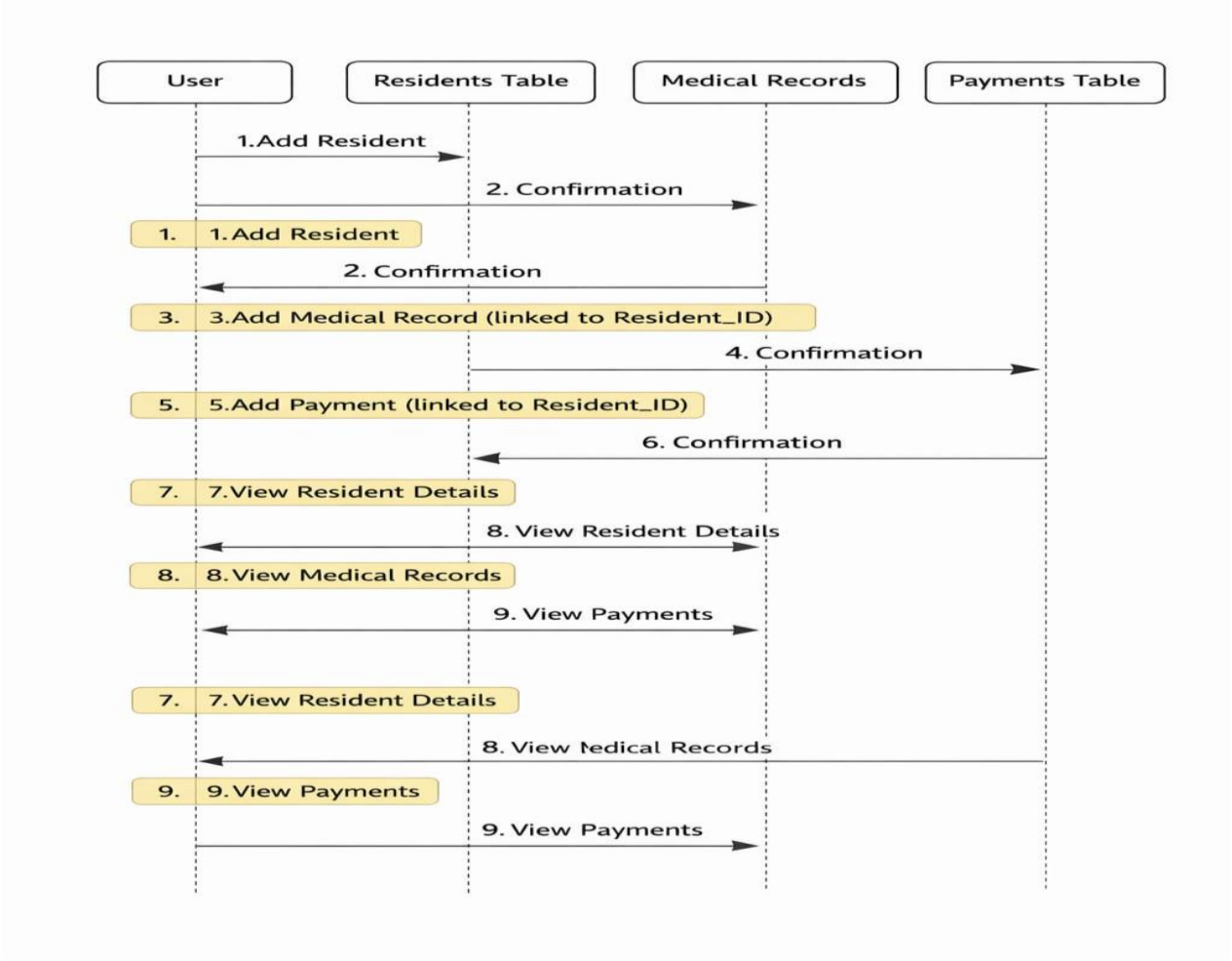
8.1 ER Diagram

b. Use Case Diagram



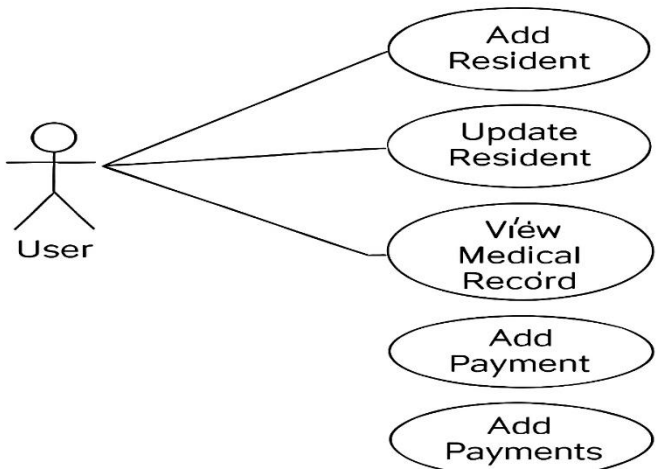
8.2 Activity Diagram

c. Sequence Diagram



8.3 Sequence Diagram

d.Use Case diagram



8.4 Use Case Diagram

9. SQL Implementation

-- 9.1 Database Creation

```
CREATE DATABASE OldAgeHome;
USE OldAgeHome;
```

-- 9.2 Table Creation

```
CREATE TABLE Residents (
   Resident_ID INT PRIMARY KEY,
   Name VARCHAR(50) NOT NULL,
   Age INT,
   Gender VARCHAR(10),
   Admission_Date DATE
);

CREATE TABLE Medical_Records (
   Record_ID INT PRIMARY KEY,
   Resident_ID INT,
   Condition VARCHAR(100),
   Last_Checkup DATE,
   FOREIGN KEY (Resident_ID) REFERENCES Residents(Resident_ID)
);

CREATE TABLE Payments (
   Payment_ID INT PRIMARY KEY,
   Resident_ID INT,
   Amount DECIMAL(10,2),
   Payment_Date DATE,
   FOREIGN KEY (Resident_ID) REFERENCES Residents(Resident_ID)
);
```

-- 9.3 Data Insertion

```
INSERT INTO Residents VALUES
(1, 'Ramesh Kumar', 72, 'Male', '2024-08-01'),
(2, 'Sita Sharma', 68, 'Female', '2024-08-02'),
(3, 'Mahesh Patil', 75, 'Male', '2024-08-05'),
(4, 'Geeta Joshi', 70, 'Female', '2024-08-07'),
(5, 'Anil Deshmukh', 73, 'Male', '2024-08-10');

INSERT INTO Medical_Records VALUES
(101, 1, 'Diabetes', '2024-12-01'),
(102, 2, 'Arthritis', '2024-12-02'),
(103, 3, 'Hypertension', '2024-12-03'),
(104, 4, 'Asthma', '2024-12-04'),
(105, 5, 'Diabetes', '2024-12-05');

INSERT INTO Payments VALUES
(201, 1, 5000, '2024-08-01'),
(202, 2, 4500, '2024-08-02'),
(203, 3, 4000, '2024-08-05'),
(204, 4, 5500, '2024-08-07'),
```

```
(205, 5, 6000, '2024-08-10');

-- 9.4 Transaction
START TRANSACTION;

INSERT INTO Residents VALUES (6, 'Sunita Rao', 69, 'Female', '2024-08-12');
INSERT INTO Medical_Records VALUES (106, 6, 'Arthritis', '2024-12-15');
INSERT INTO Payments VALUES (206, 6, 4800, '2024-08-12');

COMMIT;

--9.5 Simple Queries

--WHERE
SELECT Name, Age FROM Residents WHERE Age > 70;

--BETWEEN
SELECT Name FROM Residents WHERE Age BETWEEN 65 AND 70;

--LIKE
SELECT Name FROM Residents WHERE Name LIKE 'S%';

--9.6 Advanced Queries
-- JOIN
SELECT r.Name, r.Age, m.Medical_Condition, p.Amount
FROM Residents r
JOIN Medical_Records m ON r.Resident_ID = m.Resident_ID
JOIN Payments p ON r.Resident_ID = p.Resident_ID;

--GROUP BY
SELECT Medical_Condition, COUNT(*) AS Total_Patients
FROM Medical_Records
GROUP BY Condition;

--HAVING
SELECT r.Name, m.Medical_Condition
FROM Residents r
JOIN Medical_Records m ON r.Resident_ID = m.Resident_ID
GROUP BY r.Name, m.Medical_Condition
HAVING m.Medical_Condition = 'Diabetes';

-- Data Maintenance Queries

--UPDATE
UPDATE Payments
SET Amount = 5200
WHERE Payment_ID = 202;
```

10. SYSTEM TESTING AND RESULT

System testing was performed to ensure that the Old Age Home Resident Management System functions correctly and produces accurate results. All database operations were tested using **MySQL Workbench** to verify correctness, reliability, and data integrity.

```
mysql> show tables;
+----------------------+
| Tables_in_oldagehome |
+----------------------+
| medical_records      |
| payments             |
| residents            |
+----------------------+
3 rows in set (0.00 sec)
```

RESIDENTS TABLE:

```
mysql> select*from residents;
+-------------+--------------+------+--------+----------------+
| resident_id | name         | age  | gender | admission_date |
+-------------+--------------+------+--------+----------------+
|           1 | Sneha Pandey |   72 | Female | 2024-08-01     |
|           2 | Sita Sharma  |   68 | Female | 2024-08-02     |
|           3 | Mahesh Patil |   75 | Male   | 2024-08-05     |
|           4 | Geeta Joshi  |   70 | Female | 2024-08-07     |
|           5 | Anil Deshmukh|   73 | Male   | 2024-08-10     |
|           6 | Sunil Rao    |   69 | Female | 2024-08-12     |
+-------------+--------------+------+--------+----------------+
6 rows in set (0.00 sec)
```

MEDICAL_RECORDS TABLE:

```
mysql> select*from medical_records;
+-----------+-------------+-------------------+--------------+
| record_id | resident_id | medical_condition | last_checkup |
+-----------+-------------+-------------------+--------------+
|       101 |           1 | Diabetes          | 2024-12-01   |
|       102 |           2 | Arthritis         | 2024-12-02   |
|       103 |           3 | Hypertension      | 2024-12-03   |
|       104 |           4 | Asthama           | 2024-12-04   |
|       105 |           5 | Diabetes          | 2024-12-05   |
|       106 |           6 | Arthritis         | 2024-12-15   |
+-----------+-------------+-------------------+--------------+
6 rows in set (0.00 sec)
```

PAYMENTS TABLE:

```
mysql> select*from payments;
+------------+-------------+---------+--------------+
| payment_id | resident_id | amount  | payment_date |
+------------+-------------+---------+--------------+
|        201 |           1 | 5000.00 | 2024-08-01   |
|        202 |           2 | 5200.00 | 2024-08-02   |
|        203 |           3 | 4000.00 | 2024-08-05   |
|        204 |           4 | 5500.00 | 2024-08-07   |
|        205 |           5 | 6000.00 | 2024-08-10   |
|        206 |           6 | 4800.00 | 2024-08-12   |
+------------+-------------+---------+--------------+
6 rows in set (0.00 sec)
```

9.4 The output varifies that trascation done succesfully :

```
mysql> select*from residents;
+-------------+----------------+------+--------+----------------+
| resident_id | name           | age  | gender | admission_date |
+-------------+----------------+------+--------+----------------+
|           1 | Sneha Pandey   |   72 | Female | 2024-08-01     |
|           2 | Sita Sharma    |   68 | Female | 2024-08-02     |
|           3 | Mahesh Patil   |   75 | Male   | 2024-08-05     |
|           4 | Geeta Joshi    |   70 | Female | 2024-08-07     |
|           5 | Anil Deshmukh  |   73 | Male   | 2024-08-10     |
|           6 | Sunil Rao      |   69 | Female | 2024-08-12     |
|           7 | Abishek Sharma |   60 | Male   | 2024-08-16     |
+-------------+----------------+------+--------+----------------+
7 rows in set (0.00 sec)

mysql> select*from medical_records;
+-----------+-------------+--------------------+--------------+
| record_id | resident_id | medical_condition  | last_checkup |
+-----------+-------------+--------------------+--------------+
|       101 |           1 | Diabetes           | 2024-12-01   |
|       102 |           2 | Arthritis          | 2024-12-02   |
|       103 |           3 | Hypertension       | 2024-12-03   |
|       104 |           4 | Asthama            | 2024-12-04   |
|       105 |           5 | Diabetes           | 2024-12-05   |
|       106 |           6 | Arthritis          | 2024-12-15   |
|       107 |           7 | Dengue             | 2024-12-12   |
+-----------+-------------+--------------------+--------------+
7 rows in set (0.00 sec)

mysql> select*from payments;
+------------+-------------+---------+--------------+
| payment_id | resident_id | amount  | payment_date |
+------------+-------------+---------+--------------+
|        201 |           1 | 5000.00 | 2024-08-01   |
|        202 |           2 | 5200.00 | 2024-08-02   |
|        203 |           3 | 4000.00 | 2024-08-05   |
|        204 |           4 | 5500.00 | 2024-08-07   |
|        205 |           5 | 6000.00 | 2024-08-10   |
|        206 |           6 | 4800.00 | 2024-08-12   |
|        207 |           7 | 5500.00 | 2024-12-13   |
+------------+-------------+---------+--------------+
7 rows in set (0.00 sec)
```

9.5. The output verifies that the WHERE condition worked successfully.

```
mysql> select name,age from residents where age>70;
+---------------+------+
| name          | age  |
+---------------+------+
| Sneha Pandey  |   72 |
| Mahesh Patil  |   75 |
| Anil Deshmukh |   73 |
+---------------+------+
3 rows in set (0.00 sec)
```

The output verifies that the BETWEEN condition worked successfully.

```
mysql> select name from residents where age between 65 and 70;
+-------------+
| name        |
+-------------+
| Sita Sharma |
| Geeta Joshi |
| Sunil Rao   |
+-------------+
3 rows in set (0.00 sec)
```

The output verifies that the LIKE query executed successfully.

```
mysql> select name from residents where name like 'S%';
+--------------+
| name         |
+--------------+
| Sneha Pandey |
| Sita Sharma  |
| Sunil Rao    |
+--------------+
3 rows in set (0.00 sec)
```

9.6 The output verifies that the JOIN query executed successfully.

```
+---------------+------+-------------------+---------+
| name          | age  | medical_condition | amount  |
+---------------+------+-------------------+---------+
| Sneha Pandey  |   72 | Diabetes          | 5000.00 |
| Sita Sharma   |   68 | Arthritis         | 5200.00 |
| Mahesh Patil  |   75 | Hypertension      | 4000.00 |
| Geeta Joshi   |   70 | Asthama           | 5500.00 |
| Anil Deshmukh |   73 | Diabetes          | 6000.00 |
| Sunil Rao     |   69 | Arthritis         | 4800.00 |
| Abishek Sharma|   60 | Dengue            | 5500.00 |
+---------------+------+-------------------+---------+
7 rows in set (0.00 sec)
```

The output verifies that the GROUP BY query executed successfully.

```
+-------------------+---------------+
| medical_condition | total_patents |
+-------------------+---------------+
| Diabetes          |             2 |
| Arthritis         |             2 |
| Hypertension      |             1 |
| Asthama           |             1 |
| Dengue            |             1 |
+-------------------+---------------+
rows in set (0.00 sec)
```

The output verifies that the HAVING condition worked successfully

name	medical_condition
Sneha Pandey	Diabetes
Anil Deshmukh	Diabetes

The output verifies that the UPDATE query executed successfully.

```
mysql> select*from payments;
+------------+-------------+---------+--------------+
| payment_id | resident_id | amount  | payment_date |
+------------+-------------+---------+--------------+
|        201 |           1 | 5000.00 | 2024-08-01   |
|        202 |           2 | 5200.00 | 2024-08-02   |
|        203 |           3 | 4000.00 | 2024-08-05   |
|        204 |           4 | 5500.00 | 2024-08-07   |
|        205 |           5 | 6000.00 | 2024-08-10   |
|        206 |           6 | 6500.00 | 2024-08-12   |
|        207 |           7 | 5500.00 | 2024-12-13   |
+------------+-------------+---------+--------------+
```

11. SECURITY, BACKUP AND RECOVERY

1. Security

- User Authentication**:** Only authorized users can access the system.
- Data Integrity**:** Database constraints (Primary Key, Foreign Key, NOT NULL, CHECK) ensure that only valid data is stored.
- Access Control**:** Sensitive resident information (medical records, payments) is protected by restricting access to authorized users.
- SQL Injection Prevention**:** Queries are executed with proper validation to avoid malicious inputs.

---

2. Backup

- Regular Backups**:** Database is backed up periodically to prevent data loss.
- Backup Storage**:** Backups are stored in a secure location separate from the main database.
- Incremental Backup**:** Only changes made after the last backup are saved, reducing storage space and time.
- Emergency Backup**:** Before major updates or maintenance, a full backup is taken to ensure rollback if needed.

---

3. Recovery

- Point-in-Time Recovery**:** In case of accidental deletion or corruption, data can be restored to a specific point in time.
- Rollback Mechanism**:** Transactions are managed so that incomplete or failed operations can be rolled back without affecting data integrity.
- Disaster Recovery**:** In case of hardware failure or system crash, backup files are used to restore the database quickly.
- Testing Recover**y:** Recovery procedures are tested regularly to ensure reliability.

Conclusion

The Old Age Home Resident Management System ensures data security, reliable backups**,** and efficient recovery mechanisms. This guarantees that resident, medical, and payment information remains safe, consistent, and available even in case of failures.

12. FUTURE SCOPE AND CONCLUSION

Future Scope

The Old Age Home Resident Management System can be further improved by adding new features and technologies in the future.

- **Web-based Interface:**
  The system can be converted into a web-based application so that users can access it through a browser. This will allow remote access and make the system more user-friendly.
- **Automated Medical Alerts:**
  Automatic alerts can be added to notify staff or family members about upcoming medical checkups, medicine schedules, or emergency conditions.
- **Graphical Reports:**
  Reports such as bar charts and pie charts can be included to visually represent resident health and payment details. This will make reports easier to understand and support better decision-making.
- **Integration with Hospital/Pharmacy Systems:**
  The system can be integrated with hospital or pharmacy databases so that medical records and prescriptions are directly updated, ensuring better healthcare management.
- **Mobile Application:**
  A mobile app can be developed to provide quick access to resident information, medical records, and payment history anytime, anywhere.

Conclusion

The Old Age Home Resident Management System successfully demonstrates the use of MySQL for managing resident, medical, and payment data in a structured and efficient manner. The project helped in understanding important database concepts such as database design, SQL queries, table relationships, and data integrity constraints.

This system provides a practical and reliable solution for storing, retrieving, and analyzing resident information. Overall, the project highlights the importance of database management systems in healthcare and resident management and forms a strong base for developing advanced old age home management applications in the future.

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13. REFERENCES

- **MySQL Official Documentation:**

MySQL Documentation, Oracle Corporation. Used as the primary reference for understanding MySQL commands, database creation, table design, queries, security, backup, and recovery concepts.

- **Prescribed Textbooks:**

Standard textbooks on Database Management Systems recommended in the academic syllabus. These books were referred to for understanding basic DBMS concepts such as relational databases, SQL queries, constraints, and normalization.

- **Online Learning Sources:**

Educational websites, tutorials, and online learning platforms related to SQL and MySQL. These sources helped in learning practical query execution, examples, and best practices for database implementation.For diagrams draw.io,lucidchart.

14: GLOSSARY

The glossary section provides simple meanings of important terms used throughout the Office Asset Management project. These terms are related to database systems and SQL concepts that are essential to understand how the project works. The definitions are written in easy language so that readers with basic or no prior knowledge of databases can understand them clearly. This section helps remove confusion and acts as a quick reference for technical words used in the documentation.

DBMS (Database Management System):

A DBMS is software that is used to store, manage, and retrieve data in an organized way. It allows users to handle large amounts of data efficiently and securely.

SQL (Structured Query Language):

SQL is a standard language used to communicate with a database. It is used to create tables, insert data, retrieve records, and manage database operations.

Primary Key:

A primary key is a field that uniquely identifies each record in a table. It ensures that no two records have the same value.

Foreign Key:

A foreign key is a field that connects one table to another table. It helps maintain relationships and data consistency between tables.

MySQL:

MySQL is an open-source relational database management system used to create and manage databases. It is widely used because it is reliable, easy to use, and supports all basic database features.