

# PHASE 3: Database Logical Design & SQL

# SECD2523 - 08 Database

SEMESTER I, SESSION 2023/2024

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# **Table of Contents**

Contents	PG
1.0 Introduction	3
2.0 Overview of project	4
3.0 Database conceptual design	
3.1 Updated business rule	5
3.2 Conceptual ERD	6
4.0 DB logical design	
4.1 Logical ERD	7-10
4.2 Updated Data Dictionary	11-13
4.3 Normalization	14-15
5.0 Relational DB Schemas (after normalization)	15
6.0 SQL Statements (DDL & DML)	16-35
7.0 Prototype	36-43
8.0 Summary	44

#### 1.0 Introduction

A physiotherapy clinic system serves as a comprehensive online platform that allows people to access services, online medical resources and databases to know more about their health conditions and treatments from anywhere with internet connectivity. It has made our lives easier and more convenient than in the past by eliminating the need for physical presence. This includes booking appointments for consultants, treatment, and supplements.

One of the primary benefits of this system lies in its capability to facilitate various essential tasks online. Patients can seamlessly book appointments for consultations, treatments, and supplements without needing to visit the clinic physically. This convenience significantly improves the overall patient experience, especially for individuals facing challenges in traveling to the clinic due to distance or physical limitations.

However, despite the system's considerable advancements, there exist several persistent issues that hinder its optimal functionality. The current system encounters occasional slowdowns, impacting its overall efficiency. Moreover, while the system does offer online booking services, it lacks friendly reminders and digital feedback forms, essential for enhancing patient engagement and service improvement.

Understanding these deficiencies, our team has embarked on an in-depth study focused on enhancing the existing physiotherapy clinic system at PKU UTM. Our objective is to address these challenges comprehensively, aiming to revamp the clinic's operations and optimize patient experiences. We aspire to bridge the existing gaps by proposing significant enhancements across various aspects of the healthcare system at PKU UTM. These enhancements include but are not limited to, simplifying appointment booking, introducing friendly reminders, implementing digital feedback mechanisms, and addressing system slowdowns.

Our strategy prioritizes aligning the system with modern healthcare demands and using the most recent technological breakthroughs. By optimizing system functionality, automating essential processes, and placing a strong emphasis on patient-centric care, our goal is to create a more efficient, accessible, and patient-friendly healthcare environment at PKU UTM. This initiative aims to cater to the diverse needs of patients while facilitating a seamless and satisfactory healthcare experience for all.

# 2.0 Overview of project

In phase 3 of the project, the focus will be on updating the business rule and data dictionary, as well as enhancing the conceptual ERD to improve the efficiency and effectiveness of the physiotherapy clinic's database system. The reviewing and improving ensure the system align with the objectives of the proposed system. The logical ERD builds upon the conceptual design by translating it into a more detailed schema and developed based on the existing data processes, business rules, and transaction requirements identified in the previous phases. Both of the conceptual and logical ERD will be updated to correct any identified issues or inefficiencies in the current database structure.

Relational DB Schemas are essential for organizing data into tables, defining relationships between tables, and enforcing data integrity through constraints. It presents the finalized schemas after the normalization process. The organized tables display their relationships, keys, and dependencies, reflecting the improved structure resulting from the normalization process.

Additionally, we will also explore the possibility of integrating new features and functionalities into the system, such as online appointment booking, automated reminders, and digital feedback forms. It will not just improve the patient's experience but also optimize administrative procedures and enhance overall effectiveness. Normalization is a process aimed at eliminating data redundancy in databases by organizing and structuring the data into well-structured tables. It ensures that data is stored in a consistent and logical manner, reducing data redundancy and improving the overall performance of the database system.

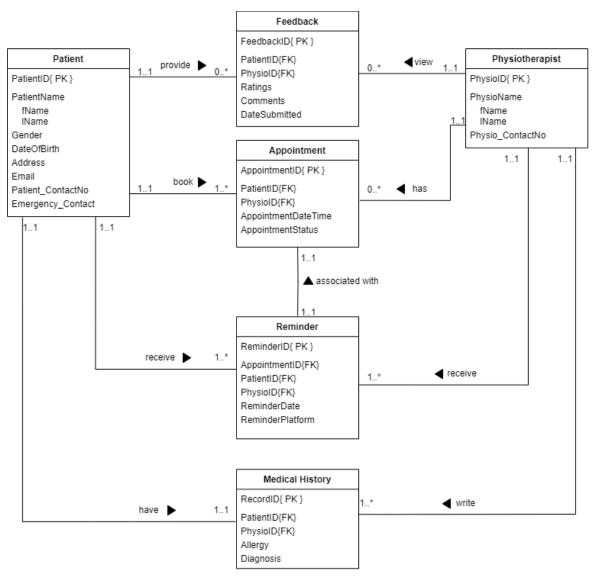
Lastly, the implementation stage is important in this project, involving the hands-on use of SQL commands to build and control the database. This stage includes using Data Definition Language (DDL) commands to create tables, define indexes, and set up database structures, as well as Data Manipulation Language (DML) commands for tasks such as inserting, updating, and deleting data. It is a critical step in the project, as it involves translating the conceptual and logical designs into an actual functioning database system.

# 3.0 Database conceptual design

# 3.1 Updated business rule

- 1. The system should automatically send appointment reminders to patients via email or SMS before the appointment within 3 days prior to the scheduled date and time.
- 2. The system identifies cases for the receptionist to proactively contact and reschedule if a patient misses two consecutive appointments, ensuring proactive patient engagement.
- 3. Patient records are stored securely for a minimum of 7 years after the last appointment in compliance with healthcare regulations, after which they are anonymized or securely deleted.
- 4. Each physiotherapist can manage up to three appointments per hour, ensuring sufficient time for personalized care and preventing practitioner overload.
- 5. A physiotherapist must create a treatment plan for each patient within 48 hours of the initial consultation.
- 6. Invoices for services rendered are generated within 24 hours of the appointment, with a 15-day payment window. Unpaid bills result in automatic reminders at 7-day intervals.
- Users with administrative privileges can access compiled feedback reports, enabling the clinic to assess overall patient satisfaction and individual practitioner performance regularly.
- 8. The physiotherapists are able to view the feedback to follow up with the concerned patient regarding their experience or concerns.
- 9. Each patient can schedule multiple appointments.
- 10. Patients should have control over their data privacy and can choose to share or withhold specific information.

# 3.2 Conceptual ERD



# 4.0 DB logical design

# 4.1 Logical ERD

# **Step 1: Strong Entity**

- 1. Guest (GuestID, fName, IName, ContactNo)
- 2. Appointment (<u>AppointmentID</u>, PatientID, PhysioID, AppointmentDateTime, AppointmentStatus)
- 3. Reminder (<u>ReminderID</u>, AppointmentID, PatientID, PhysioID, ReminderDate, ReminderPlatform)
- 4. MedicalHistory (**RecordID**, PatientID, PhysioID, Allergy, Diagnosis)
- 5. Feedback (**FeedbackID**, PatientID, PhysioID, Ratings, Comments, DateSubmitted)

### **Step 2: Weak Entity**

- 1. Patient (*PatientID*, Gender, DateOfBirth, Address, Email, Emergency\_Contact, fName, lName, ContactNo)
- 2. Physiotherapist (*PhysioID*, fName, lName, ContactNo)

# Step 3: One-to-many (1:\*) binary relationship

1. Relationship: Patient book appointment

Parent  $\rightarrow$  Patient Child  $\rightarrow$  Appointment

Patient (*PatientID*, Gender, DateOfBirth, Address, Email, Emergency\_Contact, fName, lName, ContactNo)

Appointment (<u>AppointmentID</u>, PatientID, PhysioID, AppointmentDateTime,

AppointmentStatus)

2. Relationship: Patient receive reminder

Parent  $\rightarrow$  Patient Child  $\rightarrow$  Reminder

Patient (*PatientID*, Gender, DateOfBirth, Address, Email, Emergency\_Contact, fName, lName, ContactNo)

Reminder (ReminderID, AppointmentID, PatientID, PhysioID, ReminderDate,

ReminderPlatform)

3. Relationship: Patient provide feedback

Parent  $\rightarrow$  Patient Child  $\rightarrow$  Feedback

Patient (PatientID, Gender, DateOfBirth, Address, Email, Emergency Contact)

Feedback (<u>FeedbackID</u>, *PatientID*, *PhysioID*, Ratings, Comments, DateSubmitted)

4. Relationship: Physiotherapist has appointment

Parent  $\rightarrow$  Physiotherapist Child  $\rightarrow$  Appointment

Physiotherapist (*PhysioID*, fName, IName, ContactNo)

Appointment (AppointmentID, PatientID, PhysioID, AppointmentDateTime,

AppointmentStatus)

5. Relationship: Physiotherapist receive reminder

Parent  $\rightarrow$  Physiotherapist Child  $\rightarrow$  Reminder

Physiotherapist (*PhysioID*, fName, lName, ContactNo)

Reminder (ReminderID, AppointmentID, PatientID, PhysioID, ReminderDate,

ReminderPlatform)

6. Relationship: Physiotherapist view feedback

Parent → Physiotherapist Child → Feedback

Physiotherapist (*PhysioID*, fName, IName, ContactNo)

Feedback (FeedbackID, PatientID, PhysioID, Ratings, Comments, DateSubmitted)

7. Relationship: Physiotherapist write MedicalHistory

Parent → Physiotherapist Child → MedicalHistory

Physiotherapist (*PhysioID*, fName, IName, ContactNo)

MedicalHistory (RecordID, PatientID, PhysioID, Allergy, Diagnosis)

# **Step 4: One-to-one (1:1) binary relationship**

1. Relationship: Patient have medical history

Mandatory participation on both sides

Patient MHistory (RecordID, PhysioID, Allergy, Diagnosis, PatientID, Gender,

DateOfBirth, Address, Email, Emergency Contact, fName, IName, ContactNo, )

\*Relation MedicalHistory no longer exist

\*Relation Patient is renamed as **Patient MHistory** 

2. Relationship: Reminder associated with appointment

Mandatory participation on both sides

Appointment Reminder (AppointmentID, PatientID, PhysioID, AppointmentDateTime,

AppointmentStatus, ReminderID, AppointmentID, PatientID, PhysioID, ReminderDate,

ReminderPlatform)

# Step 5: Superclass/ subclass relationship

1. Guest (GuestID, fName, IName, Contact No)

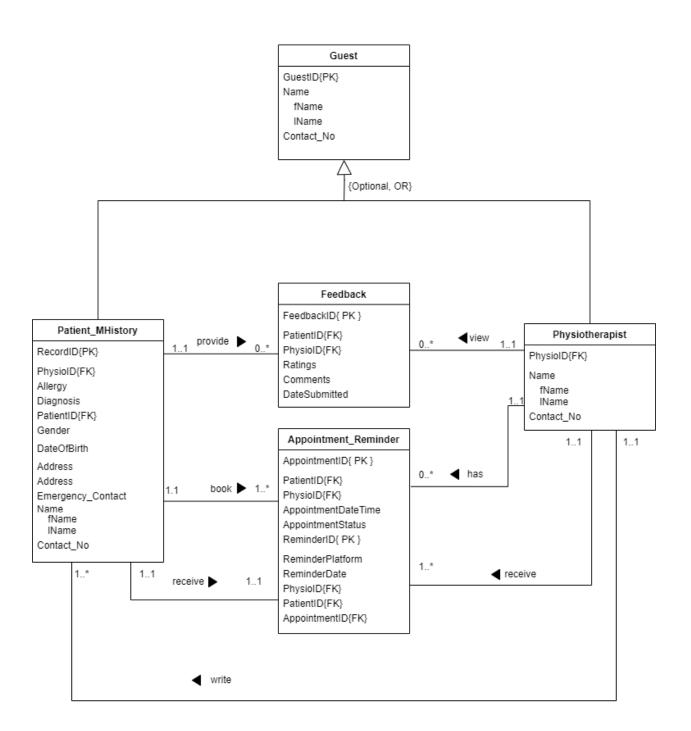
Patient\_MHistory (<u>PatientID</u>, Gender, DateOfBirth, Address, Email, Emergency\_Contact, RecordID, *PhysioID*, Allergy, Diagnosis, fName, lName, Contact\_No)

Physiotherapist (**PhysioID**, fName, lName, Contact No)

# **Finalize**

- 1. Guest (GuestID, fName, lName, ContactNo)
- Patient\_MHistory (<u>PatientID</u>, Gender, DateOfBirth, Address, Email, Emergency\_Contact, RecordID, *PhysioID*, Allergy, Diagnosis, fName, lName, Contact No)
- 3. Physiotherapist (**PhysioID**, fName, lName, Contact No)
- 4. Appointment\_Reminder (<u>AppointmentID</u>, *PatientID*, *PhysioID*, AppointmentDateTime, AppointmentStatus, ReminderID, *AppointmentID*, *PatientID*, *PhysioID*, ReminderDate, ReminderPlatform)
- 5. Feedback (<u>FeedbackID</u>, *PatientID*, *PhysioID*, Ratings, Comments, DateSubmitted)
- \*\*Remark: <u>Underlined with Bold</u> words is Primary Key.

*Italic* words is Foreign Key.



# **4.2 Updated Data Dictionary**

Entity	Attribute	Description	Data Type & Data Length	Constraint
Guest	Name fName lName	First name of user Last name of user	VARCHAR2(20) VARCHAR2(20)	NOT NULL NOT NULL
	ContactNo	Contact number of user	VARCHAR2(15)	NOT NULL
	GuestID	Type of users	VARCHAR2(20)	PRIMARY_KEY
	PatientID	Unique ID for patient	VARCHAR2(20)	FOREIGN_KEY (PatientID) REFERENCES Guest (GuestID)
Patient	Gender	Gender of patient	VARCHAR2(20)	NOT NULL
	DateOfBirth	Date of birth of patient	DATE	NOT NULL
	Address	Address of patient	VARCHAR2(60)	NOT NULL
	Email	Email of patient	VARCHAR2(40)	NOT NULL
	Emergency_Contact	Emergency contact of patient	NUMBER(15)	NOT NULL
	Name fName lName	First name of user Last name of user	VARCHAR2(20) VARCHAR2(20)	NONE NONE
	ContactNo	Contact number of user	VARCHAR2(15)	NONE
	AppointmentID	Appointment ID of an appointment	VARCHAR2(20)	PRIMARY_KEY
Appointment	PatientID	Unique ID for patient	VARCHAR2(20)	FOREIGN_KEY (PatientID) REFERENCES Guest (GuestID)
	PhysioID	Unique ID for physiotherapist	VARCHAR2(20)	FOREIGN_KEY (PhysioID) REFERENCES Guest (GuestID)
	AppointmentDateTime	The date and time of appointment made	TIMESTAMP	NONE
	AppointmentStatus	The status of current appointment	VARCHAR2(10)	NONE

Reminder	ReminderID	Unique ID for reminder	VARCHAR2(20)	PRIMARY_KEY
	AppointmentID	Unique ID for appointment	VARCHAR2(20)	FOREIGN_KEY (AppointmentID) REFERENCES Appointment (AppointmentID)
	PatientID	Unique ID for patient	VARCHAR2(20)	FOREIGN_KEY (PatientID) REFERENCES Guest (GuestID)
	PhysioID	Unique ID for physiotherapist	VARCHAR2(20)	FOREIGN_KEY (PhysioID) REFERENCES Guest (GuestID)
	ReminderDate	Date of reminder created	DATE	NONE
	ReminderPlatform	Platform of reminder	VARCHAR2(20)	NONE
	RecordID	Unique ID for medical record history	VARCHAR2(20)	PRIMARY_KEY
MedicalHistory	PatientID	Unique ID for patient VARCHAR		FOREIGN_KEY (PatientID) REFERENCES Guest (GuestID)
	PhysioID	Unique ID for physiotherapist	VARCHAR2(20)	FOREIGN_KEY (PhysioID) REFERENCES Guest (GuestID)
	Allergy	The allergy details of patient	VARCHAR2(30)	NONE
	Diagnosis	The diagnosis results of patients	VARCHAR2(255)	NOT NULL
Physiotherapist	PhysioID	Unique ID for Physiotherapist	VARCHAR2(20)	FOREIGN_KEY (PhysioID) REFERENCES Guest (GuestID)
	Name fName IName	First name of user Last name of user	VARCHAR2(20) VARCHAR2(20)	NONE NONE
	ContactNo	Contact number of user	VARCHAR2(15)	NONE
	FeedbackID	Unique ID for feedback	VARCHAR2(20)	PRIMARY_KEY

	PatientID	PatientID Unique ID for patient		FOREIGN_KEY (PatientID) REFERENCES Guest (GuestID)
Feedback	PhysioID	Unique ID for physiotherapist	VARCHAR2(20)	FOREIGN_KEY (PhysioID) REFERENCES Guest (GuestID)
	Ratings	Ratings in the feedback	NUMBER(1)	NONE
	Comments	Comments content of the feedback	VARCHAR2(255)	NONE
	DateSubmitted	Date of feedback submitted	DATE	NONE

#### 4.3 Normalization

1. Guest (GuestID, Name, fName, IName, ContactNo)

**Fd1**: GuestID → Name,fName,iName,ContactNo

#### 1NF&2NF&3NF&BCNF:

Guest (GuestID, Name, fName, IName, ContactNo)

 Patient(PatientID,Gender,DateOfBirth,Address,Email,Emergency\_Contact,Name,fName, IName,ContactNo)

**Fd1**: PatientID →Gender, DateOfBirth, Address, Email, Emergency\_Contact, Name, fName, ContactNo

#### 1NF&2NF&3NF&BCNF:

Patient(<u>PatientID</u>,Gender,DateOfBirth,Address,Email,Emergency\_Contact,Name,fName,IName,ContactNo)

3. Appointment(AppointmentID,PatientID,PhysioID,AppointmentDateTime,AppointmentSt atus)

**Fd1:**Appointment→AppointmentID,PatientID,PhysioID,AppointmentDateTime,Appoint mentStatus

#### 1NF&2NF&3NF&BCNF:

Appointment(<u>AppointmentID</u>,PatientID,PhysioID,AppointmentDateTime,AppointmentSt atus)

4. Reminder(ReminderID,AppointmentID,PatientID,PhysioID,ReminderDate,ReminderPlat form)

**Fd1:**Reminder→ReminderID,AppointmentID,PatientID,PhysioID,ReminderDate,ReminderPlatform

#### 1NF&2NF&3NF&BCNF:

Reminder(<u>ReminderID</u>, AppointmentID, PatientID, PhysioID, ReminderDate, ReminderPlat form)

5. MedicalHistory(RecordID,PatientID,PhysioID,Allergy,Diagnosis)

**Fd1:** MedicalHistory → RecordID,PatientID,PhysioID,Allergy,Diagnosis

#### 1NF&2NF&3NF&BCNF:

MedicalHistory(RecordID, PatientID, PhysioID, Allergy, Diagnosis)

6. Physiotherapist(PhysioID,Name,fName,IName,ContactNo)

**Fd1:** PhysioID → Name, fName, IName, ContactNo

# 1NF&2NF&3NF&BCNF:

Physiotherapist(<u>PhysioID</u>, Name, fName, IName, ContactNo)

7. Feedback(FeedbackID, PatientID, PhysioID, Rating, Comments, DateSubmitted)

 $\textbf{Fd1:} \ Feedback \longrightarrow Feedback ID, Patient ID, Physio ID, Rating, Comments, Date Submitted$ 

#### 1NF&2NF&3NF&BCNF:

Feedback(<u>FeedbackID</u>, PatientID, PhysioID, Rating, Comments, DateSubmitted)

# 5.0 Relational DB Schema (after normalization)

These are the set of relation schemas in relational database schema for 6G database.

Guest (GuestID, Name, fName, IName, ContactNo)

 $Patient (\underline{Patient ID}, Gender, Date Of Birth, Address, Email, Emergency\_Contact, Name, fName, IName, for the patient of the$ 

ContactNo)

Appointment(<u>AppointmentID</u>, PatientID, PhysioID, AppointmentDateTime, AppointmentStatus)

Reminder(ReminderID, AppointmentID, PatientID, PhysioID, ReminderDate, ReminderPlatform)

MedicalHistory(RecordID, PatientID, PhysioID, Allergy, Diagnosis)

Physiotherapist(PhysioID, Name, fName, IName, ContactNo)

Feedback(FeedbackID, PatientID, PhysioID, Rating, Comments, DateSubmitted)

\*\*Remark: Underline word is Primary Key

# 6.0 SQL Statements (DDL & DML)

```
CREATE TABLE
CREATE TABLE Guest(
     GuestID VARCHAR2(20),
      fName VARCHAR2(20) NOT NULL,
     IName VARCHAR2(20) NOT NULL,
     ContactNo VARCHAR2(15) NOT NULL,
     CONSTRAINT GuestID PK PRIMARY KEY (GuestID)
);
CREATE TABLE Patient(
     PatientID VARCHAR2(20),
      fName VARCHAR2(20),
     IName VARCHAR2(20),
     ContactNo VARCHAR2(15),
     Gender VARCHAR2(20) NOT NULL,
     DateOfBirth DATE NOT NULL,
     Address VARCHAR2(60) NOT NULL,
     Email VARCHAR2(40) NOT NULL,
      Emergency Contact VARCHAR2(15) NOT NULL
);
CREATE TABLE Physiotherapist(
     PhysioID VARCHAR2(20),
      fName VARCHAR2(20),
     IName VARCHAR2(20),
     ContactNo VARCHAR2(15)
);
CREATE TABLE Appointment(
      AppointmentID VARCHAR2(20),
     PatientID VARCHAR2(20),
     PhysioID VARCHAR2(20),
     AppointmentDateTime TIMESTAMP,
      AppointmentStatus VARCHAR2(10),
     CONSTRAINT AppointmentID PK PRIMARY KEY (AppointmentID)
);
CREATE TABLE Reminder(
     ReminderID VARCHAR2(20),
```

```
AppointmentID VARCHAR2(20),
     PatientID VARCHAR2(20),
     PhysioID VARCHAR2(20),
     ReminderDate DATE,
     ReminderPlatform VARCHAR2(20),
     CONSTRAINT ReminderID PK PRIMARY KEY (ReminderID)
);
CREATE TABLE MedicalHistory(
     RecordID VARCHAR2(20),
     PatientID VARCHAR2(20),
     PhysioID VARCHAR2(20),
     Allergy VARCHAR2(30),
     Diagnosis VARCHAR2(255) NOT NULL,
     CONSTRAINT RecordID PK PRIMARY KEY (RecordID)
);
CREATE TABLE Feedback(
     FeedbackID VARCHAR2(20),
     PatientID VARCHAR2(20),
     PhysioID VARCHAR2(20),
     Ratings NUMBER(1),
     Comments VARCHAR2(255),
     DateSubmitted DATE,
     CONSTRAINT FeedbackID PK PRIMARY KEY (FeedbackID)
);
CONSTRAINT FOREIGN KEY
ALTER TABLE Patient
ADD CONSTRAINT PatientID FK FOREIGN KEY (PatientID)
REFERENCES Guest (GuestID);
ALTER TABLE Physiotherapist
ADD CONSTRAINT PhysioID FK FOREIGN KEY (PhysioID)
REFERENCES Guest (GuestID);
ALTER TABLE Appointment
ADD CONSTRAINT PatientID 2 FK FOREIGN KEY (PatientID)
REFERENCES Guest (GuestID);
```

**ALTER TABLE Appointment** 

ADD CONSTRAINT PhysioID\_2\_FK FOREIGN KEY (PhysioID)

REFERENCES Guest (GuestID);

**ALTER TABLE Reminder** 

ADD CONSTRAINT AppointmentID FK FOREIGN KEY (AppointmentID)

REFERENCES Appointment (AppointmentID);

**ALTER TABLE Reminder** 

ADD CONSTRAINT PatientID 3 FK FOREIGN KEY (PatientID)

REFERENCES Guest (GuestID);

**ALTER TABLE Reminder** 

ADD CONSTRAINT PhysioID 3 FK FOREIGN KEY (PhysioID)

REFERENCES Guest (GuestID);

ALTER TABLE MedicalHistory

ADD CONSTRAINT PatientID 4 FK FOREIGN KEY (PatientID)

REFERENCES Guest (GuestID);

ALTER TABLE MedicalHistory

ADD CONSTRAINT PhysioID 4 FK FOREIGN KEY (PhysioID)

REFERENCES Guest (GuestID);

ALTER TABLE Feedback

ADD CONSTRAINT PatientID 5 FK FOREIGN KEY (PatientID)

REFERENCES Guest (GuestID);

ALTER TABLE Feedback

ADD CONSTRAINT PhysioID\_5\_FK FOREIGN KEY (PhysioID)

REFERENCES Guest (GuestID);

# **INSERT DATA**

```
GUEST
```

**INSERT INTO GUEST** 

VALUES ('D01', 'Ivlyn', 'Tay', '0100125896');

**INSERT INTO GUEST** 

VALUES ('D02', 'Yun Xi', 'Tan', '0152495233');

**INSERT INTO GUEST** 

VALUES ('D03', 'Jolyn', 'Lin', '0178445972');

**INSERT INTO GUEST** 

VALUES ('D04', 'Jun Cheng', 'Yap', '0124566244');

**INSERT INTO GUEST** 

VALUES ('D05', 'Noraini', 'binti Osman', '0123456789');

**INSERT INTO GUEST** 

VALUES ('P01', 'Muhamad Abu Bakar', 'bin Rashid', '0125689412');

**INSERT INTO GUEST** 

VALUES ('P02', 'Wei Yang', 'Chong', '0171254689');

**INSERT INTO GUEST** 

VALUES ('P03', 'Alvin', 'Tay', '0190125489');

**INSERT INTO GUEST** 

VALUES ('P04', 'Winsom', 'Lim', '0156792100');

**INSERT INTO GUEST** 

VALUES ('P05', 'Sofia', 'binti Ahmad', '0169654320');

**INSERT INTO GUEST** 

VALUES ('P06', 'Mei Ling', 'Tan', '0108108857');

**INSERT INTO GUEST** 

VALUES ('P07', 'Lucas', 'Wong', '0163559771');

**INSERT INTO GUEST** 

VALUES ('P08', 'Isabella', 'Yeoh', '0122154459');

#### **INSERT INTO GUEST**

VALUES ('P09', 'Xin Hui', 'Lee', '0133659984');

# **INSERT INTO GUEST**

VALUES ('P10', 'Kee Yong', 'Chuah', '0188759211');

# **INSERT INTO GUEST**

VALUES ('P11', 'Jing Zhe', 'Tan', '0123646125');

**INSERT INTO GUEST** 

VALUES ('P12', 'Elvis', 'Chang', '0199856421');

# **INSERT INTO GUEST**

VALUES ('P13', 'Nur Izzati', 'binti Ali', '0166452314');

# **INSERT INTO GUEST**

VALUES ('P14', 'Yu Ting', 'Wang', '0178112003');

#### **INSERT INTO GUEST**

VALUES ('P15', 'Ze Min', 'Lai', '0126205589');

#### **INSERT INTO GUEST**

VALUES ('P16', 'Nur Aisha', 'binti Ali', '0142251089');

# **INSERT INTO GUEST**

VALUES ('P17', 'Siew Zhen', 'Chong', '0123840661');

#### **INSERT INTO GUEST**

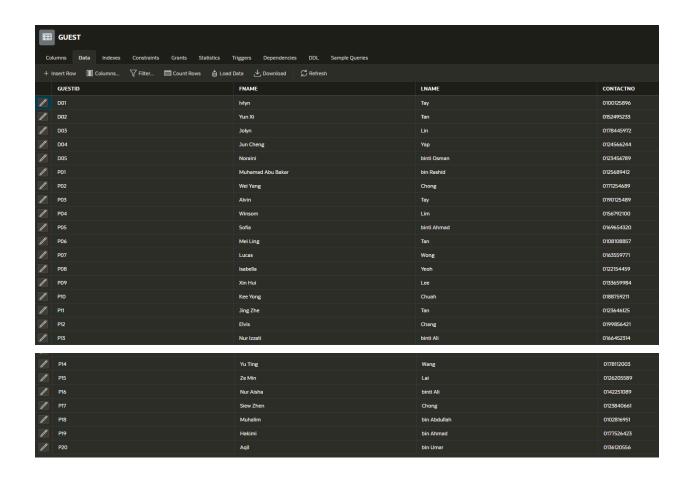
VALUES ('P18', 'Muhalim', 'bin Abdullah', '0102816951');

# **INSERT INTO GUEST**

VALUES ('P19', 'Hakimi', 'bin Ahmad', '0177526423');

#### **INSERT INTO GUEST**

VALUES ('P20', 'Aqil', 'bin Umar', '0136120556');



# **PATIENT**

#### **INSERT INTO PATIENT**

VALUES ('P01', NULL, NULL, NULL, 'Female', TO\_DATE ('12 MAY 2000', 'DD MON YYYY'), '2, Jalan Amal, 81200 Johor Bahru', 'abu@gmail.com', '01110746482');

#### **INSERT INTO PATIENT**

VALUES ('P02', NULL, NULL, NULL, 'Male', TO\_DATE ('8 JAN 2003', 'DD MON YYYY'), '14,Jalan Seri Mangga, 81300 Johor', 'weiyang@yahoo.com', '0122717773');

### **INSERT INTO PATIENT**

VALUES ('P03', NULL, NULL, 'Male', TO\_DATE ('18 JAN 2000', 'DD MON YYYY'), '38, Jalan Kebudayaan, 80988 Johor Bahru', 'alvin@gmail.com', '01110866482');

#### **INSERT INTO PATIENT**

VALUES ('P04', NULL, NULL, 'Male', TO\_DATE ('12 JUL 2002', 'DD MON YYYY'), '10, Jalan Gembira, 80100 Johor Bahru', 'winsom@hotmail.com', '0102039966');

# **INSERT INTO PATIENT**

VALUES ('P05', NULL, NULL, NULL, 'Female', TO\_DATE ('8 JAN 2003', 'DD MON YYYY'), '24, Jalan Amal, 81200 Johor Bahru', 'sofia123@yahoo.com', '0122375566');

# **INSERT INTO PATIENT**

VALUES ('P06', NULL, NULL, NULL, 'Female', TO\_DATE ('24 OCT2003', 'DD MON YYYY'), '6, Jalan Orkid, 81200 Johor Bahru', 'meiling@gmail.com', '0111678965');

#### **INSERT INTO PATIENT**

VALUES ('P07', NULL, NULL, NULL, 'Male', TO\_DATE ('20 JUL 2002', 'DD MON YYYY'), '57, Jalan Gadong, 80350 Johor', 'lucas@hotmail.com', '0166654111');

#### **INSERT INTO PATIENT**

VALUES ('P08', NULL, NULL, NULL, 'Female', TO\_DATE ('6 MAY 2003', 'DD MON YYYY'), '13, Jalan Ros, 80300 Johor Bahru', 'isabella456@yahoo.com', '0166452341');

#### **INSERT INTO PATIENT**

VALUES ('P09', NULL, NULL, NULL, 'Female', TO\_DATE ('19 JAN 1999', 'DD MON YYYY'), '22, Jalan Mawar, 81100 Johor Bahru', 'xinhui12@gmail.com', '0133344576');

#### **INSERT INTO PATIENT**

VALUES ('P10', NULL, NULL, 'Male', TO\_DATE ('25 JUN 1970', 'DD MON YYYY'), '19, Jalan Rambai, 81300 Johor', 'ck@hotmail.com', '0177768978');

### **INSERT INTO PATIENT**

VALUES ('P11', NULL, NULL, 'Male', TO\_DATE ('30 SEP 1988', 'DD MON YYYY'), '33, Jalan Murni, 81100 Johor Bahru', 'jz@yahoo.com', '01110946498');

#### **INSERT INTO PATIENT**

VALUES ('P12', NULL, NULL, 'Male', TO\_DATE ('20 MAY 1965', 'DD MON YYYY'), '7, Jalan Pelangi, 80150 Johor', 'elvis@gmail.com', '0122254389');

### **INSERT INTO PATIENT**

VALUES ('P13', NULL, NULL, NULL, 'Female', TO\_DATE ('4 MAR 1993', 'DD MON YYYY'), '19, Jalan Desa, 80300 Johor Bahru', 'izzati@hotmail.com', '0164489643');

#### **INSERT INTO PATIENT**

VALUES ('P14', NULL, NULL, 'Female', TO\_DATE ('17 MAY 1998', 'DD MON YYYY'), '21, Jalan Tun Razak, 80988 Johor Bahru', 'yting@yahoo.com', '0177731108');

# **INSERT INTO PATIENT**

VALUES ('P15', NULL, NULL, 'Male', TO\_DATE ('27 JUN 2001', 'DD MON YYYY'), '16, Jalan Ong Kim Wee, 80150 Johor', 'lai@gmail.com', '0133378965');

#### **INSERT INTO PATIENT**

VALUES ('P16', NULL, NULL, NULL, 'Female', TO\_DATE ('3 APR 2002', 'DD MON YYYY'), '32, Jalan Tengkera, 80300 Johor Bahru', 'aisha@hotmail.com', '0127879765');

#### **INSERT INTO PATIENT**

VALUES ('P17', NULL, NULL, NULL, 'Female', TO\_DATE ('24 SEP 1986', 'DD MON YYYY'), '10, Jalan Gajah Berang, 80150 Johor', 'szhen@yahoo.com', '0164537892');

# **INSERT INTO PATIENT**

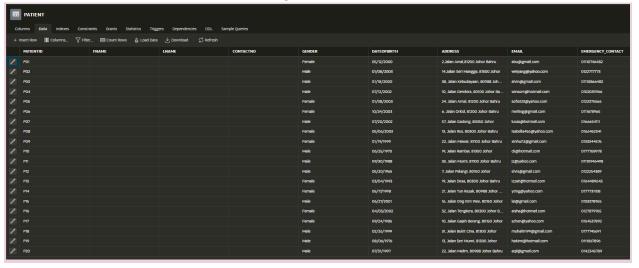
VALUES ('P18', NULL, NULL, NULL, 'Male', TO\_DATE ('26 FEB 1999', 'DD MON YYYY'), '31, Jalan Bukit Cina, 81300 Johor', 'muhalim99@gmail.com', '0177745691');

#### **INSERT INTO PATIENT**

VALUES ('P19', NULL, NULL, 'Male', TO\_DATE ('6 AUG 1976', 'DD MON YYYY'), '13, Jalan Seri Murni, 81300 Johor', 'hakimi@hotmail.com', '0111067896');

#### **INSERT INTO PATIENT**

VALUES ('P20', NULL, NULL, NULL, 'Male', TO\_DATE ('31JUL1997', 'DD MON YYYY'), '22, Jalan Malim, 80988 Johor Bahru', 'aqil@gmail.com', '0142345789');



#### **PHYSIOTHERAPIST**

INSERT INTO PHYSIOTHERAPIST VALUES ('D01', NULL, NULL, NULL);

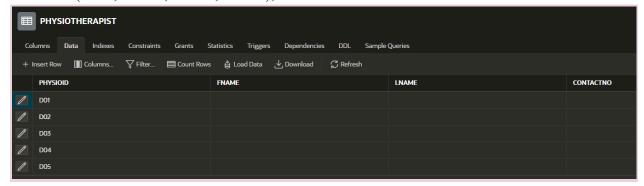
INSERT INTO PHYSIOTHERAPIST

VALUES ('D02', NULL, NULL, NULL);

INSERT INTO PHYSIOTHERAPIST VALUES ('D03', NULL, NULL, NULL);

INSERT INTO PHYSIOTHERAPIST VALUES ('D04', NULL, NULL, NULL);

INSERT INTO PHYSIOTHERAPIST VALUES ('D05', NULL, NULL, NULL);



#### **APPOINTMENT**

INSERT INTO APPOINTMENT

VALUES ('A01', 'P01', 'D01', '03-FEB-2024 09:00:00 AM', 'Pending');

INSERT INTO APPOINTMENT

VALUES ('A02', 'P02', 'D02', '04-FEB-2024 10:00:00 AM', 'Pending');

INSERT INTO APPOINTMENT

VALUES ('A03', 'P03', 'D03', '06-FEB-2024 09:00:00 AM', 'Pending');

INSERT INTO APPOINTMENT

VALUES ('A04', 'P04', 'D04', '12-FEB-2024 1:00:00 PM', 'Confirmed');

INSERT INTO APPOINTMENT

VALUES ('A05', 'P05', 'D05', '03-FEB-2024 2:00:00 PM', 'Confirmed');

INSERT INTO APPOINTMENT

VALUES ('A06', 'P07', 'D01', '07-FEB-2024 1:00:00 PM', 'Confirmed');

INSERT INTO APPOINTMENT

VALUES ('A07', 'P07', 'D02', '23-FEB-2024 10:00:00 AM', 'Cancelled');

#### INSERT INTO APPOINTMENT

VALUES ('A08', 'P08', 'D03', '05-MAR-2024 11:00:00 AM', 'Cancelled');

#### INSERT INTO APPOINTMENT

VALUES ('A09', 'P09', 'D04', '12-MAR-2024 4:00:00 PM', 'Confirmed');

#### INSERT INTO APPOINTMENT

VALUES ('A10', 'P10', 'D05', '07-APR-2024 3:00:00 PM', 'Confirmed');

#### INSERT INTO APPOINTMENT

VALUES ('A11', 'P11', 'D01', '25-MAR-2024 10:00:00 AM', 'Confirmed');

#### INSERT INTO APPOINTMENT

VALUES ('A12', 'P12', 'D02', '11-MAR-2024 10:00:00 AM', 'Confirmed');

#### INSERT INTO APPOINTMENT

VALUES ('A13', 'P13', 'D03', '06-MAR-2024 09:00:00 AM', 'Confirmed');

#### INSERT INTO APPOINTMENT

VALUES ('A14', 'P14', 'D04', '14-MAR-2024 11:00:00 AM', 'Confirmed');

#### INSERT INTO APPOINTMENT

VALUES ('A15', 'P15', 'D05', '20-MAR-2024 1:00:00 PM', 'Pending');

#### INSERT INTO APPOINTMENT

VALUES ('A16', 'P16', 'D01', '27-MAR-2024 10:00:00 AM', 'Pending');

#### INSERT INTO APPOINTMENT

VALUES ('A17', 'P17', 'D02', '03-APR-2024 09:00:00 AM', 'Confirmed');

### INSERT INTO APPOINTMENT

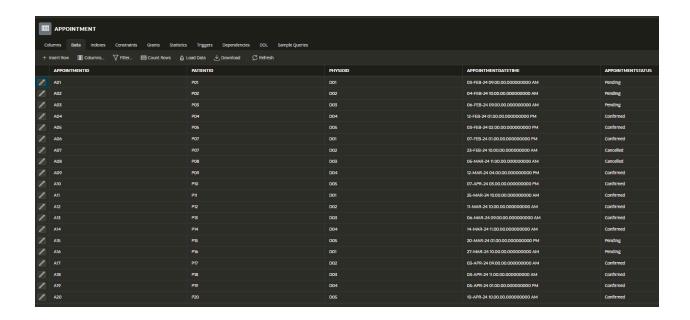
VALUES ('A18', 'P18', 'D03', '03-APR-2024 11:00:00 AM', 'Confirmed');

#### INSERT INTO APPOINTMENT

VALUES ('A19', 'P19', 'D04', '05-APR-2024 1:00:00 PM', 'Confirmed');

#### INSERT INTO APPOINTMENT

VALUES ('A20', 'P20', 'D05', '10-APR-2024 10:00:00 AM', 'Confirmed');



# **REMINDER**

# INSERT INTO REMINDER

VALUES ('R01', 'A01', 'P01', 'D01', TO DATE ('31 JAN 2024', 'DD MON YYYY'), 'Whatsapp');

#### INSERT INTO REMINDER

VALUES ('R02', 'A02', 'P02', 'D02', TO DATE ('01 FEB 2024', 'DD MON YYYY'), 'Email');

#### INSERT INTO REMINDER

VALUES ('R03', 'A03', 'P03', 'D03', TO DATE ('03 FEB 2024', 'DD MON YYYY'), 'Email');

# INSERT INTO REMINDER

VALUES ('R04', 'A04', 'P04', 'D04', TO DATE ('09 FEB 2024', 'DD MON YYYY'), 'Email');

# **INSERT INTO REMINDER**

VALUES ('R05', 'A05', 'P05', 'D05', TO DATE ('31 JAN 2024', 'DD MON YYYY'), 'Whatsapp');

#### INSERT INTO REMINDER

VALUES ('R06', 'A06', 'P06', 'D01', TO DATE ('04 FEB 2024', 'DD MON YYYY'), 'Whatsapp');

# INSERT INTO REMINDER

VALUES ('R07', 'A07', 'P07', 'D02', NULL, NULL);

#### INSERT INTO REMINDER

VALUES ('R08', 'A08', 'P08', 'D03', NULL, NULL);

#### INSERT INTO REMINDER

VALUES ('R09', 'A09', 'P09', 'D04', TO DATE ('09 FEB 2024', 'DD MON YYYY'), 'Email');

#### INSERT INTO REMINDER

VALUES ('R10', 'A10', 'P10', 'D05', TO DATE ('04 APR 2024', 'DD MON YYYY'), 'Email');

#### INSERT INTO REMINDER

VALUES ('R11', 'A11', 'P11', 'D01', TO DATE ('22 MAR 2024', 'DD MON YYYY'), 'Email');

#### INSERT INTO REMINDER

VALUES ('R12', 'A12', 'P12', 'D02', TO DATE ('08 MAR 2024', 'DD MON YYYY'), 'Email');

# INSERT INTO REMINDER

VALUES ('R13', 'A13', 'P13', 'D03', TO\_DATE ('03 MAR 2024', 'DD MON YYYY'), 'Whatsapp');

#### INSERT INTO REMINDER

VALUES ('R14', 'A14', 'P14', 'D04', TO\_DATE ('11 MAR 2024', 'DD MON YYYY'), 'Whatsapp');

# INSERT INTO REMINDER

VALUES ('R15', 'A15', 'P15', 'D05', TO\_DATE ('17 MAR 2024', 'DD MON YYYY'), 'Whatsapp');

#### INSERT INTO REMINDER

VALUES ('R16', 'A16', 'P16', 'D01', TO DATE ('23 MAR 2024', 'DD MON YYYY'), 'Email');

#### INSERT INTO REMINDER

VALUES ('R17', 'A17', 'P17', 'D02', TO DATE ('31 MAR 2024', 'DD MON YYYY'), 'Email');

#### INSERT INTO REMINDER

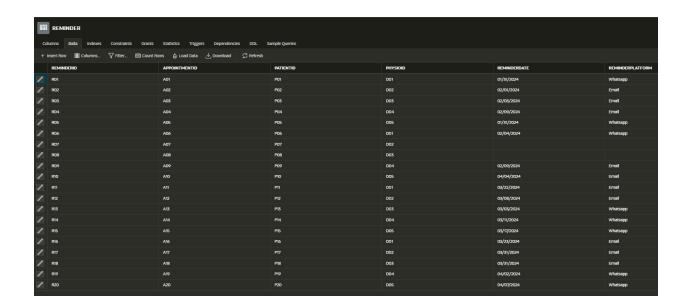
VALUES ('R18', 'A18', 'P18', 'D03', TO\_DATE ('31 MAR 2024', 'DD MON YYYY'), 'Email');

#### INSERT INTO REMINDER

VALUES ('R19', 'A19', 'P19', 'D04', TO\_DATE ('02 APR 2024', 'DD MON YYYY'), 'Whatsapp');

# INSERT INTO REMINDER

VALUES ('R20', 'A20', 'P20', 'D05', TO\_DATE ('07 APR 2024', 'DD MON YYYY'), 'Whatsapp');



#### **MEDICALHISTORY**

INSERT INTO MEDICALHISTORY VALUES ('M01', 'P01', 'D01', NULL, 'Muscle Strain');

INSERT INTO MEDICALHISTORY VALUES ('M02', 'P02', 'D02', NULL, 'Rotator Cuff Injuries');

INSERT INTO MEDICALHISTORY VALUES ('M03', 'P03', 'D03', NULL, 'Neck Pain');

INSERT INTO MEDICALHISTORY VALUES ('M04', 'P04', 'D04', NULL, 'Ankle Sprain');

INSERT INTO MEDICALHISTORY VALUES ('M05', 'P05', 'D05', NULL, 'Osteoarthritis');

INSERT INTO MEDICALHISTORY VALUES ('M06', 'P06', 'D01', 'Penicillin', 'Plantar Fasciitis');

INSERT INTO MEDICALHISTORY VALUES ('M07', 'P07', 'D02', NULL, 'Knee Pain');

INSERT INTO MEDICALHISTORY VALUES ('M08', 'P08', 'D03', 'Aspirin', 'Low Back Pain');

INSERT INTO MEDICALHISTORY

VALUES ('M09', 'P09', 'D04', 'Sulfonamides', 'Muscle Strain');

INSERT INTO MEDICALHISTORY

VALUES ('M10', 'P10', 'D05', NULL, 'Spinal Cord Injuries');

INSERT INTO MEDICALHISTORY

VALUES ('M11', 'P11', 'D01', 'Penicillin', 'Ankle Sprain');

INSERT INTO MEDICALHISTORY

VALUES ('M12', 'P12', 'D02', NULL, 'Ankle Sprain');

INSERT INTO MEDICALHISTORY

VALUES ('M13', 'P13', 'D03', 'Aspirin', 'Knee Pain');

INSERT INTO MEDICALHISTORY

VALUES ('M14', 'P14', 'D04', NULL, 'Knee Pain');

INSERT INTO MEDICALHISTORY

VALUES ('M15', 'P15', 'D05', 'Penicillin', 'Knee Pain');

INSERT INTO MEDICALHISTORY

VALUES ('M16', 'P16', 'D01', NULL, 'Low Back Pain');

INSERT INTO MEDICALHISTORY

VALUES ('M17', 'P17', 'D02', NULL, 'Muscle Strain');

INSERT INTO MEDICALHISTORY

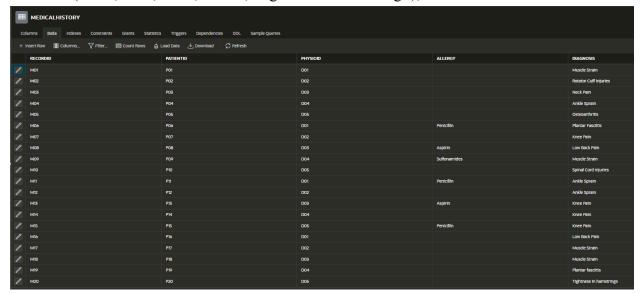
VALUES ('M18', 'P18', 'D03', NULL, 'Muscle Strain');

INSERT INTO MEDICALHISTORY

VALUES ('M19', 'P19', 'D04', NULL, 'Plantar fasciitis');

INSERT INTO MEDICALHISTORY

# VALUES ('M20', 'P20', 'D05', NULL, 'Tightness in hamstrings');



# **FEEDBACK**

#### INSERT INTO FEEDBACK

VALUES ('F01', 'P01', 'D01', 5, NULL, TO\_DATE ('05 FEB 2024', 'DD MON YYYY'));

# INSERT INTO FEEDBACK

VALUES ('F02', 'P02', 'D02', 4, 'Compassionate and attentive care.', TO\_DATE ('06 FEB 2024', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F03', 'P03', 'D03', 5, 'Exceptional expertise and professionalism.', TO\_DATE ('07 FEB 2024', 'DD MON YYYY'));

# INSERT INTO FEEDBACK

VALUES ('F04', 'P04', 'D04', 3, 'Inadequate temperature control in waiting areas.', TO\_DATE ('16 FEB 2024', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F05', 'P05', 'D05', 2, 'Reduce waiting times please', TO\_DATE ('04 FEB 2024', 'DD MON YYYY'));

# INSERT INTO FEEDBACK

VALUES ('F06', 'P06', 'D01', NULL, 'Highly knowledgeable and approachable.', TO\_DATE ('08 FEB 2024', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F07', 'P07', 'D02', 5, 'Patient-focused and thorough approach.', TO\_DATE ('26 DEC 2023', 'DD MON YYYY'));

# INSERT INTO FEEDBACK

VALUES ('F08', 'P08', 'D03', 4, 'Encourages and motivates during sessions.', TO\_DATE ('08 MAR 2023', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F09', 'P09', 'D04', 5, 'Clean and well-maintained facilities.', TO\_DATE ('13 MAR 2024', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F10', 'P10', 'D05', 3, NULL, TO DATE ('08 APR 2024', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F11', 'P11', 'D01', 3, NULL, TO DATE ('26 MAR 2024', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F12', 'P12', 'D02', NULL, 'Provides comprehensive and insightful advice', TO\_DATE ('11 MAR 2023', 'DD MON YYYY'));

# INSERT INTO FEEDBACK

VALUES ('F13', 'P13', 'D03', NULL, 'Exceptional expertise in therapy techniques', TO\_DATE ('07 MAR 2024', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F14', 'P14', 'D04', NULL, NULL, NULL);

# INSERT INTO FEEDBACK

VALUES ('F15', 'P15', 'D05', 3, 'Provides valuable home care advice.', TO\_DATE ('20 MAR 2024', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

VALUES ('F16', 'P16', 'D01', 2, 'Enhance waiting area comfort.', TO\_DATE ('26 MAR 2024', 'DD MON YYYY'));

# INSERT INTO FEEDBACK

VALUES ('F17', 'P17', 'D02', 4, NULL, TO\_DATE ('03 APR 2023', 'DD MON YYYY'));

#### INSERT INTO FEEDBACK

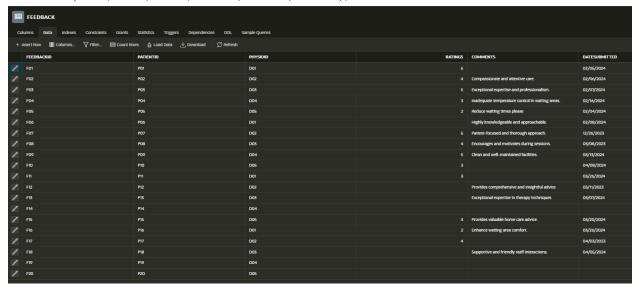
VALUES ('F18', 'P18', 'D03', NULL, 'Supportive and friendly staff interactions.', TO\_DATE ('05 APR 2024', 'DD MON YYYY'));

# INSERT INTO FEEDBACK

VALUES ('F19', 'P19', 'D04', NULL, NULL, NULL);

# INSERT INTO FEEDBACK

VALUES ('F20', 'P20', 'D05', NULL, NULL, NULL);



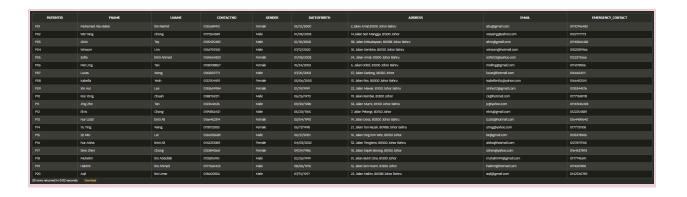
# **DML** skills

# **UPDATE PATIENT fName, IName, ContactNo using select from where concept & AND operator**

```
UPDATE Patient p
SET (fName, lName, ContactNo) = (
    SELECT fName, lName, ContactNo
    FROM Guest
    WHERE p.PatientID = Guest.GuestID AND Guest.GuestID LIKE 'P%'
);
```

# Print Patient to show the update

SELECT\* FROM Patient;



# UPDATE PHYSIOTHERAPIST fName, lName, ContactNo using select from where concept & AND operator

```
UPDATE Physiotherapist d
SET (fName, IName, ContactNo) = (
    SELECT fName, IName, ContactNo
    FROM Guest
    WHERE d.PhysioID = Guest.GuestID AND Guest.GuestID LIKE 'D%'
);
```

# Print Physiotherapist table to show the update

SELECT\* FROM Physiotherapist;



# Combine Patient fName, IName with Alias Name (Patient Name) and other patient information

SELECT patientID, fName  $\|\cdot\|$  IName AS "Patient Name", gender, dateofbirth, address, email, emergency\_contact, contactno

FROM Patient



# Delete row P07 where the patient's appointment is cancel from Reminder

DELETE FROM Reminder WHERE patientID = 'P07';

# Delete row P08 where the patient's appointment is cancel from Reminder

DELETE FROM Reminder WHERE patientID = 'P08';

# Print Reminder table to show the update

SELECT\* FROM Reminder;

REMINDERID	APPOINTMENTID	PATIENTID	PHYSIOID	REMINDERDATE	REMINDERPLATFORM
R01					Whatsapp
R02				02/01/2024	Email
R03				02/03/2024	
R04				02/09/2024	tmaf
R06					Whatsapp
R06				02/04/2024	Whitsipp
R09				02/09/2024	
R10				04/04/2024	Email
Rtt					
RI2			D02	03/08/2024	Email
RIS				05/05/2024	Whitsapp
R14			D04	03/11/2024	Whatsapp
RIS					Whitsapp
R16				03/23/2024	Email
R17					
RtB				03/51/2024	Email
R19					Whatsapp
R20				04/07/2024	Whatsapp
Remarks and Advanced Resident					

# Retrieve data (ratings) in descending order from Feedback table

SELECT feedbackID, patientID, physioID, ratings, comments, datesubmitted FROM Feedback ORDER BY ratings DESC;

FEEDBACKID	PATIENTID	PHYSIOID	RATINGS	COMMENTS	DATESUBMITTED
F12				Provides comprehensive and insightful advice	
F20					
FD6				Heghly knowledgeable and approachable.	02/08/2024
F14					
FIS				Exceptional expertise in therapy techniques	
FIS				Supportive and friendly staff Interactions.	04/05/2024
F19					
F09				Clean and well-maintained facilities.	03/13/2024
FOI					
F07				Patient-focused and thorough approach.	12/26/2023
F03				Exceptional expertise and professionalism.	
F08	POS	D03		Encourages and motivates during sessions.	05/08/2023
F02				Compassionate and attentive care.	
F17					04/03/2023
PS				Provides valuable home care advice.	
F04				Inadequate temperature control in waiting areas.	02/16/2024
FIO					04/08/2024
FII	Ptt	D01			03/26/2024
FI6				Enhance wetting area comfort.	
FOS				Reduce wating times please	02/04/2024
20 rows returned in 0.04 seconds Download	20 revis returned in 0.04 seconds Counted				

# Join with USING clause

SELECT p.fName || ' '|| p.lName AS "Patient Name", m.allergy, m.diagnosis FROM Patient p JOIN MedicalHistory m USING (patientID);

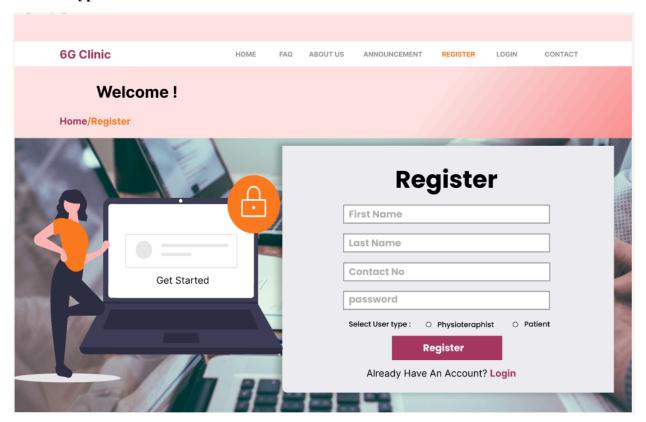


# Join with NATURAL clause

 $SELECT\ fName\ \|\ '\ '\|\ IName\ AS\ "Patient\ Name", appointmentDateTime, appointmentStatus\\ FROM\ Patient\ NATURAL\ JOIN\ Appointment;$ 



# 7.0 Prototype



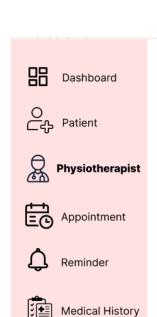


# **UPDATE PATIENT fName, lName, ContactNo using select from where concept & AND operator**

UPDATE Patient p
SET (fName, lName, ContactNo) = (
 SELECT fName, lName, ContactNo
 FROM Guest
 WHERE p.PatientID = Guest.GuestID AND Guest.GuestID LIKE 'P%'
);

# Print Patient to show the update

SELECT\* FROM Patient;



Feedback

Join Table

PhysioID	fName	IName	ContactNo
D01	lvlyn	Tay	0100125896
D02	Yun Xi	Tan	0152495233
D03	Jolyn	Lin	0178445972
D04	Jun Cheng	Yap	0124566244
D05	Noraini	binti Osman	0123456789

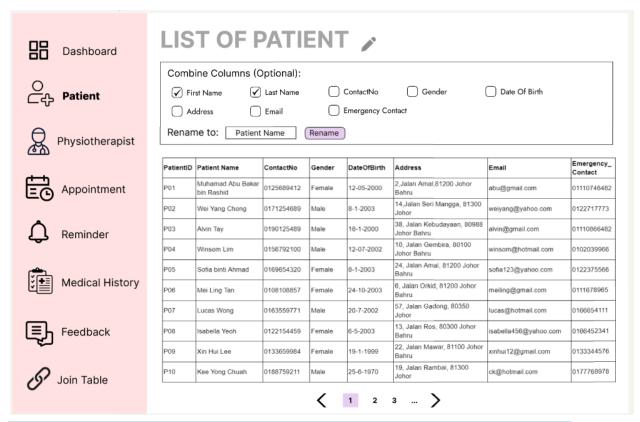
# **UPDATE PHYSIOTHERAPIST fName, lName, ContactNo using select from where concept & AND operator**

LIST OF PHYSIOTHERAPY

```
UPDATE Physiotherapist d
SET (fName, lName, ContactNo) = (
    SELECT fName, lName, ContactNo
    FROM Guest
    WHERE d.PhysioID = Guest.GuestID AND Guest.GuestID LIKE 'D%'
);
```

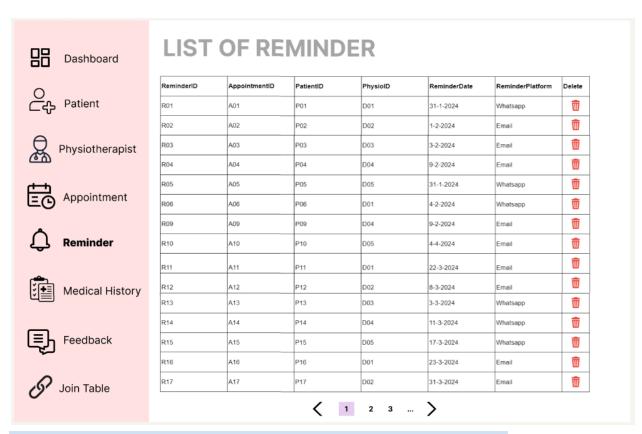
# Print Physiotherapist table to show the update

SELECT\* FROM Physiotherapist;



# Combine Patient fName, IName with Alias Name (Patient Name) and other patient information

SELECT patientID, fName || ' '|| IName AS "Patient Name", gender, dateofbirth, address, email, emergency\_contact, contactno FROM Patient



# Delete row P07 where the patient's appointment is cancel from Reminder

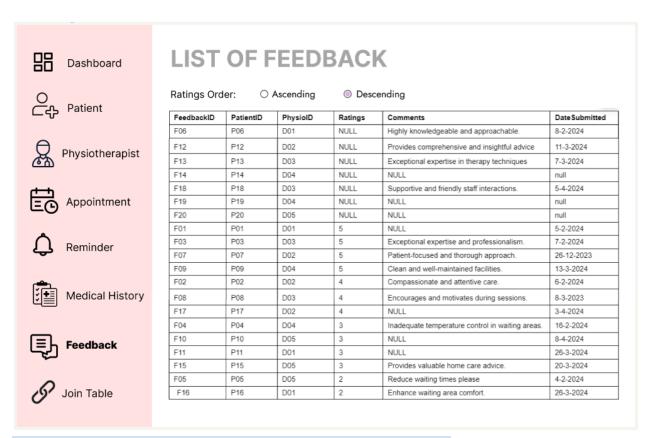
DELETE FROM Reminder WHERE patientID = 'P07';

# Delete row P08 where the patient's appointment is cancel from Reminder

DELETE FROM Reminder WHERE patientID = 'P08';

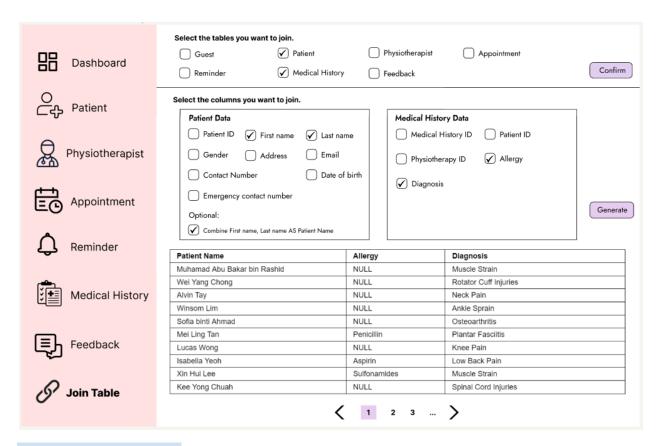
# Print Reminder table to show the update

SELECT\* FROM Reminder;



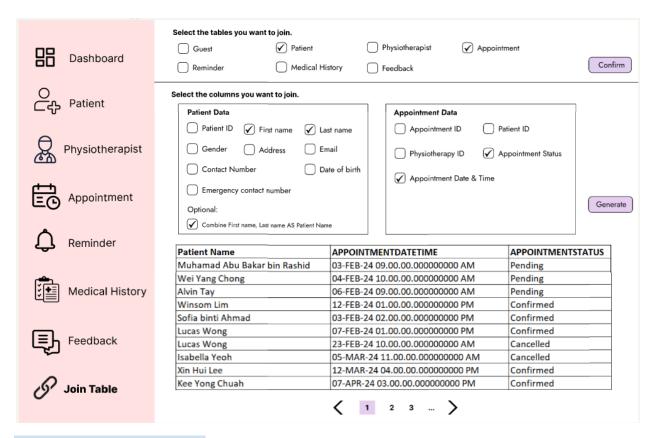
# Retrieve data (ratings) in descending order from Feedback table

SELECT feedbackID, patientID, physioID, ratings, comments, datesubmitted FROM Feedback ORDER BY ratings DESC;



# Join with USING clause

SELECT p.fName || ' '|| p.lName AS "Patient Name", m.allergy, m.diagnosis FROM Patient p JOIN MedicalHistory m USING (patientID);



# Join with NATURAL clause

SELECT fName || ' '|| IName AS "Patient Name", appointmentDateTime, appointmentStatus FROM Patient NATURAL JOIN Appointment;

# 8.0 Summary

In conclusion for this phase, we had listened to the concerns and expectations of the user about the current physiotherapist clinic system. In fact, we had some discussions about the features that we should maintain and how to enhance the features to create a more user-friendly clinic system, letting the stakeholders feel the system is easy for them when it comes to accessing services provided by PKU UTM.

We had analyzed the user requirements and recommendations that we had collected from phase 2 in order to design the system that we proposed, the physiotherapist clinic system. This physiotherapist clinic system serves as a comprehensive online platform that allows people to access services, online medical resources and databases to know more about their health conditions and treatments from anywhere with internet connectivity. Our proposed system includes the features of simplify appointment booking, introduce friendly reminders, implementing digital feedback mechanisms, and addressing system slowdowns.

Our expectation of the proposed system is that our stakeholders will gain benefits which can seamlessly book appointments for consultations, treatments, and supplements without needing to visit the clinic physically by using our proposed physiotherapy clinic system. The benefits include easily accessing the medical history and book and cancel appointments online, more concise feedback process and auto-generation of feedback reports to physiotherapists. The system will also support sending notifications to notify the patients of the appointment time when it gets close.