TIS1101 - DATABASE FUNDAMENTALS

TRIMESTER- 2 2020/21

GROUP ASSIGNMENT 2
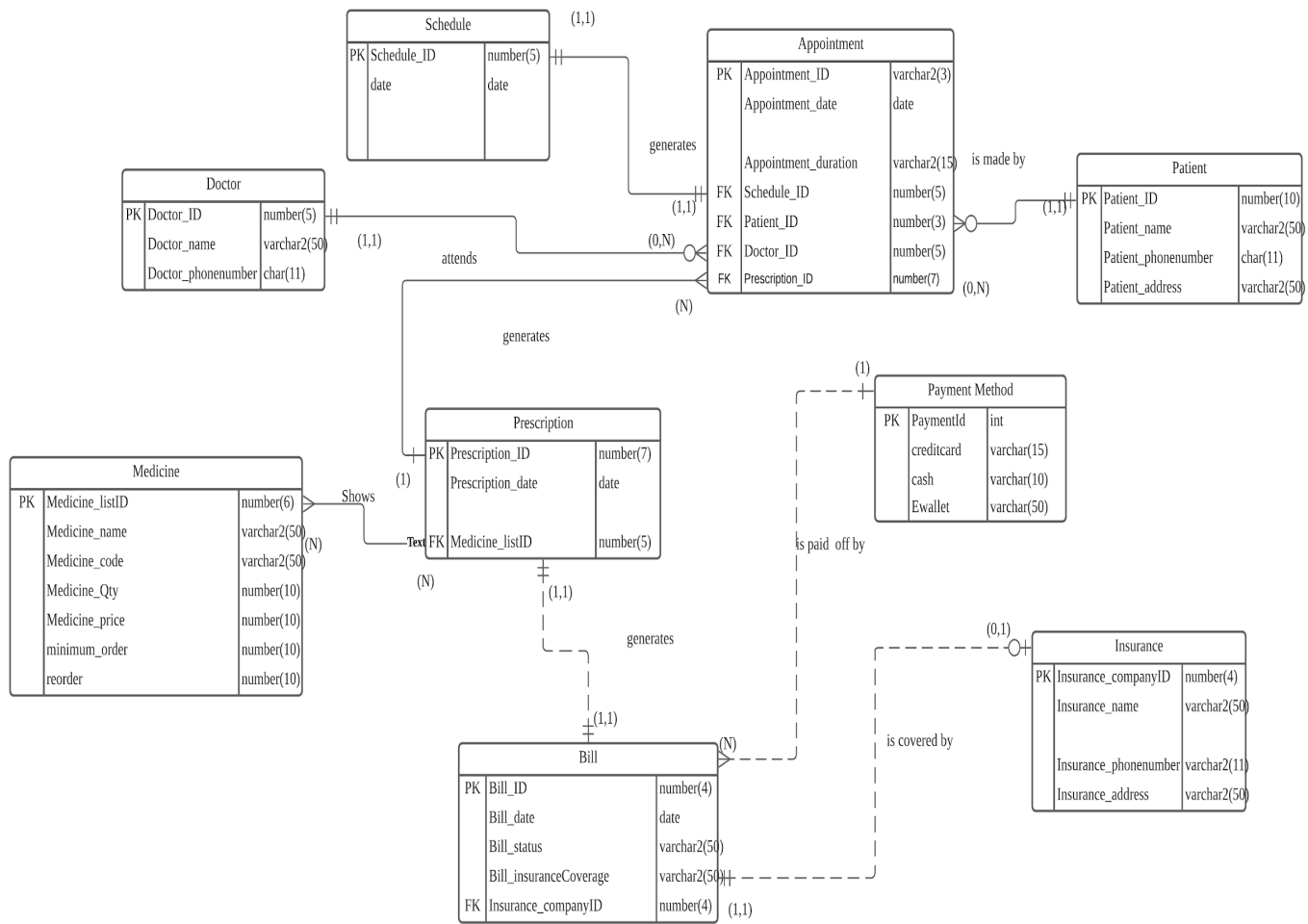
GROUP - 10

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TUTORIAL SECTION: TT2V

LECTURER: Dr. Haw Su Cheng .

Title: CLINIC MANAGEMENT SYSTEM

No.	Student Name	Student ID
1	Azmina Sharaf	1181102970
2	Shasvin A/L Sasetharan	1171002300

Entity Relationship Diagram (Corrected):

Schedule
PK	Schedule_ID	number(5)
	date	date

Appointment
PK	Appointment_ID	varchar2(3)
	Appointment_date	date
	Appointment_duration	varchar2(15)
FK	Schedule_ID	number(5)
FK	Patient_ID	number(3)
FK	Doctor_ID	number(5)
FK	Prescription_ID	number(7)

Patient
PK	Patient_ID	number(10)
	Patient_name	varchar2(50)
	Patient_phonenumber	char(11)
	Patient_address	varchar2(50)

Doctor
PK	Doctor_ID	number(5)
	Doctor_name	varchar2(50)
	Doctor_phonenumber	char(11)

Prescription
PK	Prescription_ID	number(7)
	Prescription_date	date
FK	Medicine_listID	number(5)

Payment Method
PK	PaymentId	int
	creditcard	varchar(15)
	cash	varchar(10)
	Ewallet	varchar(50)

Medicine
PK	Medicine_listID	number(6)
	Medicine_name	varchar2(50)
	Medicine_code	varchar2(50)
	Medicine_Qty	number(10)
	Medicine_price	number(10)
	minimum_order	number(10)
	reorder	number(10)

Bill
PK	Bill_ID	number(4)
	Bill_date	date
	Bill_status	varchar2(50)
	Bill_insuranceCoverage	varchar2(50)
FK	Insurance_companyID	number(4)

Insurance
PK	Insurance_companyID	number(4)
	Insurance_name	varchar2(50)
	Insurance_phonenumber	varchar2(11)
	Insurance_address	varchar2(50)

Relationships:
- generates (Schedule (1,1) — Appointment (1,1))
- is made by (Appointment (0,N) — Patient (1,1))
- attends (Doctor (1,1) — Appointment (0,N))
- generates (Appointment (N) — Prescription)
- Shows (Medicine (N) — Prescription)
- generates (Prescription (1,1) — Bill (1,1))
- is paid off by (Payment Method (1) — Bill (N))
- is covered by (Bill (1,1) — Insurance (0,1))

Data Dictionary:

Patient data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Patient_ID	number	3	Patient's ID number
	Patient_name	varchar2	50	Patient's name
	Patient_phonenumber	char	11	Patient's phone number
	Patient_adress	varchar2	25	Patient's address

Doctor data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Doctor_ID	number	5	Doctor's ID number
	Doctor_name	varchar2	50	Doctor's name
	Doctor_phonenumber	char	11	Doctor's phone number

Schedule data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Schedule_ID	number	5	Schedule ID number
	Schedule_date	date		Schedule date

Appointment data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Appointment_ID	varchar2	3	Appointment ID number
	Appointment_duration	varchar2	15	Appointment duration
FK	Schedule_ID	number	5	Schedule ID number
FK	Patient_ID	number	3	Patient ID number
FK	Doctor_ID	number	5	Doctor ID number
FK	Prescription_ID	number	7	Prescription ID number

Medicine data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Medicine_listID	number	6	Medicine list ID number
	Medicine_name	varchar2	50	Medicine name
	Medicine_code	varchar2	50	Medicine code
	Medicine_Qty	number	10	Medicine Stock Quantity
	Medicine_price	number	10	Medicine Price
	minimum_order	number	10	Minimum required order
	reorder	number	10	

Prescription data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Prescription_ID	number	7	Prescription ID number
	Prescription_date	date		Prescription issue date
FK	Medicine_listID	number	5	Medicine list ID number

Bill data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Bill_ID	number	4	Bill ID number
	Bill_date	date		Bill issue date
	Bill_status	varchar2	50	Bill status
	Bill_insuranceCoverage	varchar2	50	Bill insurance coverage
FK	Insurance_ID	number	4	Insurance ID number

Insurance data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Insurance_ID	number	4	Insurance ID number
	Insurance_name	varchar2	50	Insurance package name
	Insurance_phonenumber	varchar2	11	Insurance company phone number
	Insurance_address	varchar2	50	Insurance company address

Payment data dictionary:

PK/FK	Field Name	Data Type	Field Size	Caption
PK	Payment_ID	number	6	Payment ID number
	creditcard	varchar2	50	Payment method choice by credit card
	cash	varchar2	50	Payment method choice by cash
	e-wallet	varchar2	50	Payment method choice by e-wallet

Tables:

Patient Table:

Patient_ID	Patient_name	Patient_phone number	Patient_address
541	Ahmed Walid	60454321005	Melaka
339	Riyadh Hossain	60454321015	Selangor
873	Raisa Sheikh	60454321025	Selangor
677	Yoga Shri Murti	60454321035	Penang
235	Foo Li Leen	60454321045	Melaka
776	Tan Ai Lin	60454321055	Melaka
457	Dumini Yasangini	60454321065	Sarawak
908	Thajma Divimakuluwa	60454321075	Selangor
909	Atiar Rahman	60454321085	Penang
110	Ruksana Zahid	60454321095	Penang
411	Fong Siew Chong	60454321105	Melaka
612	Darshan Sasetharan	60454321125	Selangor
313	Nazeefa Iqbal	60454321135	Sarawak
014	Maleesha Silva	60454321145	Selangor
415	Mohammed Raihan	60454321155	Selangor
816	Disuri Gamage	60454321165	Penang
317	Hema Malini		Melaka
118	Ibn Sina	60454321185	Sarawak
619	Mostafa Mahmoud	60454321195	Penang
420	Abdella	60454321205	Penang

Doctor table:

Doctor_ID	Doctor_name	Doctor_phonenumber
6778	Dr. Chu Sik Fai	60378723454
9028	Dr. P.S. Nathan	60378723487
7567	Dr. Assunta Davadas	60378723937
4263	Dr. Joseph Lam Pak Shin	60378723010
8745	Dr. Rani Ganesalingam	60378723021
2525	Dr. Kum Sui Yin	60378720493
6826	Dr.Lam Kai Huat	60378723050
7777	Dr. Nicholas Chua Yul Chye	60378720705
4044	Dr. Venugopal Balchand	60378723204
6534	Dr. Michael Ong Ah Hup	60378723004
1819	Dr. Saraspathey	60378723443
1432	Dr. Somasundran	60378723002
9835	Dr. Chang Chew Min	60378728208
4972	Dr. Lim Wye Kit	60378723968
3088	Dr. Ho Yin Ngun	60378724624
8392	Dr. Jeeta K. Muthumanikam	60378723040
6730	Dr. Suresh Raj Lachmanan	60378723379
6830	Dr. Thye Yuen Lin	60378724645
2574	Dr. Tan Hee Wu	60378723021
6864	Dr. Jaswant Singh	60378723077

Schedule table:

Schedule_ID	Schedule_Date
01	13-Feb-21
02	13-Feb-21
03	14-Feb-21
04	15-Feb-21
05	15-Feb-21
06	15-Feb-21
07	16-Feb-21
08	16-Feb-21
09	17-Feb-21
10	18-Feb-21
11	19-Feb-21
12	19-Feb-21
13	19-Feb-21
14	20-Feb-21
15	20-Feb-21
16	21-Feb-21
17	22-Feb-21
18	23-Feb-21
19	23-Feb-21
20	23-Feb-21

Appointment table:

Appointment_ID	Appointment_duration	Schedule_ID	Patient_ID	Doctor_ID	Prescription_ID
A01	1 hour	01	541	6778	7735772
A02	1 hour	02	339	9028	6002856
A03	½ hour	03	873	7567	8362543
A04	1 hour	04	677	4263	8395269
A05	½ hour	05	235	8745	6783627
A06	½ hour	06	776	2525	7473911
A07	1 hour	07	457	6826	4763280
A08	1 hour	08	908	7777	7782476
A09	1 hour	09	909	4044	2744645
A10	½ hour	10	110	6534	7672619
A11	½ hour	11	411	1819	9466286
A12	1 hour	12	612	1432	2988840
A13	½ hour	13	313	9835	7082871
A14	1 hour	14	014	4972	1045848
A15	1 hour	15	415	3088	8940744
A16	½ hour	16	816	8392	1535949
A17	½ hour	17	317	6730	5612324
A18	½ hour	18	118	6830	6860905
A19	1 hour	19	619	2574	8859128
A20	½ hour	20	420	6864	8698590

Medicine table:

Medicine_listID	Medicine_name	Medicine_code	Medicine_Qty	Medicine_price	minimum_order	reorder
547355	Paracetamol	x201	50	10	5	0
869223	Ibuprofen	x202	100	20	5	0
685739	Acetylsalicylic acid	x203	50	20	5	0
176383	Fentanyl	x204	50	10	5	0
149937	Morphine	x205	50	10	5	0
962457	Oxycodone	x206	100	20	5	0
128894	Tramadol	x207	50	10	5	0
348430	Dihydrocodeine tartrate	x208	100	10	5	0
822325	Amitriptyline	x209	50	10	5	0
745594	Dexamethasone	x210	50	20	5	0
946764	Diazepam	x211	50	20	5	0
399455	Fluoxetine	x212	50	20	5	0
301650	Haloperidol	x213	100	20	5	0

862192	Hyoscine butylbromide	x214	100	20	5	0
267804	Lactulose	x215	100	20	5	0
338239	Loperamide	x216	100	20	5	0
771427	Lorazepam	x217	100	20	5	0
104585	Metoclopramide	x218	100	20	5	0
110436	Midazolam	x219	50	10	5	0
115031	Ondansetron	x220	50	10	5	0

Prescription Table:

Prescription_ID	Prescription_date	Medicine_listID
7735772	13-Feb-21	547355
6002856	13-Feb-21	869223
8362543	14-Feb-21	685739
8395269	15-Feb-21	176383
6783627	15-Feb-21	149937
7473911	15-Feb-21	962457
4763280	16-Feb-21	128894
7782476	16-Feb-21	348430
2744645	17-Feb-21	822325
7672619	18-Feb-21	745594
9466286	19-Feb-21	946764
2988840	19-Feb-21	399455
7082871	19-Feb-21	301650
1045848	20-Feb-21	862192
8940744	20-Feb-21	267804
1535949	21-Feb-21	338239
5612324	22-Feb-21	771427
6860905	23-Feb-21	104585
8859128	23-Feb-21	110436
8698590	23-Feb-21	115031

Bill Table:

Bill_ID	Bill_Status	Bill_InsuranceCoverage	Bill_Date	Insurance_ID
1469	Paid	Covered	13-Feb-21	4271
1904	Pending	Not Covered	13-Feb-21	
8232	Pending	Not Covered	14-Feb-21	
1666	Paid	Covered	15-Feb-21	1151
7227	Paid	Covered	15-Feb-21	4271
9296	Pending	Not Covered	15-Feb-21	
1267	Pending	Not Covered	16-Feb-21	
1157	Pending	Not Covered	16-Feb-21	
7536	Paid	Covered	17-Feb-21	1151

4095	Paid	Covered	18-Feb-21	4271
4050	Paid	Covered	19-Feb-21	4271
9317	Paid	Covered	19-Feb-21	1151
6019	Paid	Covered	19-Feb-21	1151
3976	Paid	Covered	20-Feb-21	1151
4981	Pending	Not Covered	20-Feb-21	
6411	Pending	Not Covered	21-Feb-21	
3208	Paid	Covered	22-Feb-21	1151
8081	Paid	Covered	23-Feb-21	4271
9388	Paid	Covered	23-Feb-21	4271
1415	Pending	Not Covered	23-Feb-21	

Insurance table:

Insurance_ID	Insurance_name	Insurance_phonenumber	Insurance_address
4271	**SecureFox**	**60321097999**	**Selangor**
1151	**EraPlus**	**60321043535**	**Selangor**

Payment method table:

Payment_ID	creditcard	cash	e-wallet
311375	Successful payment	-	-
526189	-	-	Successful payment
122160	-	Successful payment	-
022546	Successful payment	-	-
966801	-	-	Successful payment
865927	-	Successful payment	-
030538	-	Successful payment	-
565606	Successful payment	-	-
761980	-	-	Successful

			payment
960973	-	-	Successful payment
287052	Successful payment	-	-
222082	-	Successful payment	-
709071	Successful payment	-	-
690374	Successful payment	-	-
642221	-	Successful payment	-
055541	Successful payment	-	-
258988	Successful payment	-	-
540189	-	Successful payment	-
173296	Successful payment	-	-
400344	Successful payment	-	-

Oracle code for database:

<u>Creating tables:</u>

```
Create Table Patient
(Patient_ID number(3) not null primary key,
 Patient_name varchar2(50),
 Patient_phonenumber char(11),
 Patient_address varchar2(25)
);

describe Patient;

CREATE Table Doctor
(Doctor_ID number(5) not null primary key,
 Doctor_name varchar2(50),
 Doctor_phonenumber char(11)
);

describe Doctor;

Create Table Schedule
( Schedule_ID number(5) not null primary key,
  Schedule_date date
);

describe Schedule;

Create Table Medicine
( Medicine_listID number(6) not null primary key,
  Medicine_name varchar2(50),
  Medicine_code varchar2(50),
  Medicine_Qty number(10),
  Medicine_price number(10),
  minimum_order number(10),
  reorder number(10)
  );
```

Describe Medicine;

Create Table Prescription
(Prescription_ID number(7) not null primary key,
  Prescription_date date,
  Medicine_listID number(6),
  foreign key (Medicine_listID) references Medicine
  );

Describe Prescription;

Create Table Bill
(Bill_ID number(4) not null primary key,
  Bill_date date,
  Bill_status varchar2(50),
  Bill_insuranceCoverage varchar2(50),
  Insurance_ID number (4),
  foreign key (Insurance_ID) references Insurance
  );

Describe Bill;

Create Table Insurance
(Insurance_ID number(4) not null primary key,
  Insurance_name varchar2(50),
  Insurance_phonenumber varchar2(11),
  Insurance_address varchar2(50)
  );

Describe Insurance;

Create Table Payment
(Payment_ID number(6) not null primary key,
  creditcard varchar2(50),
  ewallet varchar2(50),

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   cash varchar2(50)
   );

   Describe Payment;


Create Table Appointment
( Appointment_ID varchar2(3) not null primary key,
  Appointment_duration varchar2(15),
  Schedule_ID number(5),
  Patient_ID number(3),
  Doctor_ID number(5),
  Prescription_ID number(7),
  foreign key (Schedule_ID) references Schedule,
  foreign key (Patient_ID) references Patient,
  foreign key (Doctor_ID) references Doctor,
  foreign key (Prescription_ID) references Prescription
  );

Describe Appointment;
```

<u>Inserting data into tables:</u>

Insert into Patient values (541,'Ahmed Walid', 60454321005,'Melaka');
Insert into Patient values (339,'Riyadh Hossain',60454321015,'Selangor');
Insert into Patient values (873,'Raisa Sheikh',60454321025 ,'Selangor');
Insert into Patient values (677,'Yoga Shri Murti',60454321035 ,'Penang');
Insert into Patient values (235,'Foo Li Leen',60454321045 ,'Melaka');
Insert into Patient values (776,'Tan Ai Lin',60454321055 ,'Melaka');
Insert into Patient values (457,'Dumini Yasangini',60454321065 ,'Sarawak');
Insert into Patient values (908,'Thajma Dimakuluwa',60454321075 ,'Selangor');
Insert into Patient values (909,'Atiar Rahman',60454321085 ,'Penang');
Insert into Patient values (110,'Ruksana Zahid',60454321095 ,'Penang');
Insert into Patient values (411,'Fong Siew Chong',60454321105 ,'Melaka');
Insert into Patient values (612,'Darshan Sasetharan',60454321125 ,'Selangor');
Insert into Patient values (313,'Nazeefa Iqbal',60454321135 ,'Sarawak');
Insert into Patient values (014,'Maleesha Silva',60454321145 ,'Selangor');
Insert into Patient values (415,'Mohammad Raihan',60454321155 ,'Selangor');
Insert into Patient values (816,'Disuri Gamage',60454321165 ,'Penang');
Insert into Patient values (317,'Hema Malini',60454321175 ,'Melaka');
Insert into Patient values (118,'Ibn Sina',60454321185 ,'Sarawak');
Insert into Patient values (619,'Mostafa Mahmoud',60454321195 ,'Penang');
Insert into Patient values (420,'Abdella',60454321205 ,'Penang');

Select * from Patient;

Insert into Doctor values (6778,'Dr. Chu Sik Fai',60378723454);
Insert into Doctor values (9028,'Dr. P.S. Nathan',60378723487);

Insert into Doctor values (7567,'Dr. Assunta Davadas',60378723937);
Insert into Doctor values (4263,'Dr. Joseph Lam Pak Shin',60378723010);
Insert into Doctor values (8745,'Dr. Rani Ganesalingam',60378723021);
Insert into Doctor values (2525,'Dr. Kum Sui Yin',60378720493);
Insert into Doctor values (6826,'Dr.Lam Kai Huat',60378723050);
Insert into Doctor values (7777,'Dr. Nicholas Chua Yul Chye',60378720705);
Insert into Doctor values (4044,'Dr. Venugopal Balchand',60378723204);
Insert into Doctor values (6534,'Dr. Michael Ong Ah Hup',60378723004);
Insert into Doctor values (1819,'Dr. Saraspathey',60378723443);
Insert into Doctor values (1432,'Dr. Somasundran',60378723002);
Insert into Doctor values (9835,'Dr. Chang Chew Min',60378728208);
Insert into Doctor values (4972,'Dr. Lim Wye Kit',60378723968);
Insert into Doctor values (3088,'Dr. Ho Yin Ngun',60378724624);
Insert into Doctor values (8392,'Dr. Jeeta K. Muthumanikam',60378723040);
Insert into Doctor values (6730,'Dr. Suresh Raj Lachmanan',60378723379);
Insert into Doctor values (6830,'Dr. Thye Yuen Lin',60378724645);
Insert into Doctor values (2574,'Dr. Tan Hee Wu',60378723021);
Insert into Doctor values (6864,'Dr. Jaswant Singh',60378723077);

Select * from Doctor;

Insert into Schedule values (01,'13-Feb-21');
Insert into Schedule values (02,'13-Feb-21');
Insert into Schedule values (03,'14-Feb-21');
Insert into Schedule values (04,'15-Feb-21');
Insert into Schedule values (05,'15-Feb-21');
Insert into Schedule values (06,'15-Feb-21');
Insert into Schedule values (07,'16-Feb-21');
Insert into Schedule values (08,'16-Feb-21');
Insert into Schedule values (09,'17-Feb-21');
Insert into Schedule values (10,'18-Feb-21');
Insert into Schedule values (11,'19-Feb-21');
Insert into Schedule values (12,'19-Feb-21');

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Insert into Schedule values (13,'19-Feb-21');
Insert into Schedule values (14,'20-Feb-21');
Insert into Schedule values (15,'20-Feb-21');
Insert into Schedule values (16,'21-Feb-21');
Insert into Schedule values (17,'22-Feb-21');
Insert into Schedule values (18,'23-Feb-21');
Insert into Schedule values (19,'23-Feb-21');
Insert into Schedule values (20,'23-Feb-21');

Select * from Schedule;

Insert into Medicine values (547355,'Paracetamol', 'x201',50,10,5,0);
Insert into Medicine values (869223,'Ibuprofen', 'x202',100,20,0);
Insert into Medicine values (685739,'Acetylsalicylic acid',
'x203',50,20,5,0);
Insert into Medicine values (176383,'Fentanyl', 'x204',50,10,5,0);
Insert into Medicine values (149937,'Morphine', 'x205',50,10,5,0);
Insert into Medicine values (962457,'Oxycodone', 'x206',100,20,5,0);
Insert into Medicine values (128894,'Tramadol', 'x207',50,10,5,0);
Insert into Medicine values (348430,'Dihydrocodeine tartrate',
'x208',100,10,5,0);
Insert into Medicine values (822325,'Amitriptyline', 'x209',50,10,5,0);
Insert into Medicine values (745594,'Dexamethasone', 'x210',50,20,5,0);
Insert into Medicine values (946764,'Diazepam', 'x211',50,20,5,0);
Insert into Medicine values (399455,'Fluoxetine', 'x212',50,20,5,0);
Insert into Medicine values (301650,'Haloperidol', 'x213',100,20,5,0);
Insert into Medicine values (862192,'Hyoscine butylbromide',
'x214',100,20,5,0);
Insert into Medicine values (267804,'Lactulose', 'x215',100,20,5,0);
Insert into Medicine values (338239,'Loperamide', 'x216',100,20,5,0);
Insert into Medicine values (771427,'Lorazepam', 'x217',100,20,5,0);
Insert into Medicine values (104585,'Metoclopramide',
'x218',100,20,5,0);
Insert into Medicine values (110436,'Midazolam', 'x219',50,10,5,0);
Insert into Medicine values (115031,'Ondansetron', 'x220',50,10,5,0);

Select * from Medicine;
```

```sql
Insert into Prescription values (7735772,'13-Feb-21',547355);
Insert into Prescription values (6002856,'13-Feb-21',869223);
Insert into Prescription values (8362543,'14-Feb-21',685739);
Insert into Prescription values (8395269,'15-Feb-21',176383);
Insert into Prescription values (6783627,'15-Feb-21',149937);
Insert into Prescription values (7473911,'15-Feb-21',962457);
Insert into Prescription values (4763280,'16-Feb-21',128894);
Insert into Prescription values (7782476,'16-Feb-21',348430);
Insert into Prescription values (2744645,'17-Feb-21',822325);
Insert into Prescription values (7672619,'18-Feb-21',745594);
Insert into Prescription values (9466286,'19-Feb-21',946764);
Insert into Prescription values (2988840,'19-Feb-21',399455);
Insert into Prescription values (7082871,'19-Feb-21',301650);
Insert into Prescription values (1045848,'20-Feb-21',862192);
Insert into Prescription values (8940744,'20-Feb-21',267804);
Insert into Prescription values (1535949,'21-Feb-21',338239);
Insert into Prescription values (5612324,'22-Feb-21',771427);
Insert into Prescription values (6860905,'23-Feb-21',104585);
Insert into Prescription values (8859128,'23-Feb-21',110436);
Insert into Prescription values (8698590,'23-Feb-21',115031);

Select * from Prescription;

Insert into Bill values (1469,'13-Feb-21','Paid','Covered',4271);
Insert into Bill values (1904,'13-Feb-21','Pending','Not Covered');
Insert into Bill values (8232,'14-Feb-21','Pending','Not Covered');
Insert into Bill values (1666,'15-Feb-21','Paid','Covered',1151);
Insert into Bill values (7227,'15-Feb-21','Paid','Covered',4271);
Insert into Bill values (9296,'15-Feb-21','Pending','Not Covered');
Insert into Bill values (1267,'16-Feb-21','Pending','Not Covered');
Insert into Bill values (1157,'16-Feb-21','Paid','Not Covered');
Insert into Bill values (7536,'17-Feb-21','Paid','Covered',1151);
Insert into Bill values (4095,'18-Feb-21','Paid','Covered',4271);
Insert into Bill values (4050,'19-Feb-21','Paid','Covered',4271);
Insert into Bill values (9317,'19-Feb-21','Paid','Covered',1151);
Insert into Bill values (6019,'19-Feb-21','Paid','Covered',1151);
```

```sql
Insert into Bill values (3976,'20-Feb-21','Paid','Covered',1151);
Insert into Bill values (4981,'20-Feb-21','Pending','Not Covered');
Insert into Bill values (6411,'21-Feb-21','Pending','Not Covered');
Insert into Bill values (3208,'22-Feb-21','Paid','Covered',1151);
Insert into Bill values (8081,'23-Feb-21','Paid','Covered',4271);
Insert into Bill values (9388,'23-Feb-21','Paid','Covered',4271);
Insert into Bill values (1415,'23-Feb-21','Pending','Not Covered');

Select * from Bill;

Insert into Appointment values ('A01','1 hour',01,541,6778,7735772);
Insert into Appointment values ('A02','1 hour',02,339,9028,6002856);
Insert into Appointment values ('A03','½ hour',03,873,7567,8362543);
Insert into Appointment values ('A04','1 hour',04,677,4263,8395269);
Insert into Appointment values ('A05','½ hour',05,235,8745,6783627);
Insert into Appointment values ('A06','½ hour',06,776,2525,7473911);
Insert into Appointment values ('A07','1 hour',07,457,6826,4763280);
Insert into Appointment values ('A08','1 hour',08,908,7777,7782476);
Insert into Appointment values ('A09','1 hour',09,909,4044,2744645);
Insert into Appointment values ('A10','½ hour',10,110,6534,7672619);
Insert into Appointment values ('A11','½ hour',11,411,1819,9466286);
Insert into Appointment values ('A12','1 hour',12,612,1432,2988840);
Insert into Appointment values ('A13','½ hour',13,313,9835,7082871);
Insert into Appointment values ('A14','1 hour',14,014,4972,1045848);
Insert into Appointment values ('A15','1 hour',15,415,3088,8940744);
Insert into Appointment values ('A16','½ hour',16,816,8392,1535949);
Insert into Appointment values ('A17','½ hour',17,317,6730,5612324);
Insert into Appointment values ('A18','½ hour',18,118,6830,6860905);
Insert into Appointment values ('A19','1 hour',19,619,2574,8859128);
Insert into Appointment values ('A20','½ hour',20,420,6864,8698590);

Select * from Appointment;

Insert into Insurance values
(4271,'SecureFox','60321097999','Selangor');
Insert into Insurance values (1151,'EraPlus','60321043535','Selangor');
```

Select * from Insurance;

Insert into Payment values (311375,'Successful payment','-','-');
Insert into Payment values (526189,'-','-','Successful payment');
Insert into Payment values (122160,'-','Successful payment','-');
Insert into Payment values (022546,'Successful payment','-','-');
Insert into Payment values (966801,'-','-','Successful payment');
Insert into Payment values (865927,'-','Successful payment','-');
Insert into Payment values (030538,'-','Successful payment','-');
Insert into Payment values (565606,'Successful payment','-','-');
Insert into Payment values (761980,'-','-','Successful payment');
Insert into Payment values (960973,'-','-','Successful payment');
Insert into Payment values (287052,'Successful payment','-','-');
Insert into Payment values (222082,'-','Successful payment','-');
Insert into Payment values (709071,'Successful payment','-','-');
Insert into Payment values (690374,'Successful payment','-','-');
Insert into Payment values (642221,'-','Successful payment','-');
Insert into Payment values (055541,'Successful payment','-','-');
Insert into Payment values (258988,'Successful payment','-','-');
Insert into Payment values (540189,'-','-','Successful payment');
Insert into Payment values (173296,'Successful payment','-','-');
Insert into Payment values (400344,'Successful payment','-','-');

Select * from Payment;

<u>Queries:</u>

Stored Procedure:

```
Create or replace procedure "INSERTUSER"
(Patient_ID IN number,
Patient_name IN varchar2,
Patient_phonenumber IN char,
Patient_address In varchar2)
Is
Begin
Insert into Patient
values(Patient_ID,Patient_name,Patient_phonenumber,Patient_address)
;
End;

Begin
insertuser(669,'Blipblop',60143203626,'Selangor');
dbms_output.put_line('Record inserted successfully');
End;


Select * from Patient;
```

	PATIENT_ID	PATIENT_NAME	PATIENT_PHONENUMBER	PATIENT_ADDRESS
1	541	Ahmed Walid	60454321005	Melaka
2	339	Riyadh Hossain	60454321015	Selangor
3	873	Raisa Sheikh	60454321025	Selangor
4	677	Yoga Shri Murti	60454321035	Penang
5	235	Foo Li Leen	60454321045	Melaka
6	776	Tan Ai Lin	60454321055	Melaka
7	457	Dumini Yasangini	60454321065	Sarawak
8	908	Thajma Dimakuluwa	60454321075	Selangor
9	909	Atiar Rahman	60454321085	Penang
10	110	Ruksana Zahid	60454321095	Penang
11	411	Fong Siew Chong	60454321105	Melaka
12	612	Darshan Sasetharan	60454321125	Selangor
13	313	Nazeefa Iqbal	60454321135	Sarawak
14	14	Maleesha Silva	60454321145	Selangor
15	415	Mohammad Raihan	60454321155	Selangor
16	816	Disuri Gamage	60454321165	Penang
17	317	Hema Malini	60454321175	Melaka
18	118	Ibn Sina	60454321185	Sarawak
19	619	Mostafa Mahmoud	60454321195	Penang
20	420	Abdella	60454321205	Penang
21	669	Blipblop	60143203626	Selangor

--The stored procedure allows us to insert new patient data.

View:
Create View Residents AS
Select Doctor_name, Doctor_phonenumber
From Doctor
Where Doctor_ID > 5000;

Select * from Residents;

--This query displays the doctor names and their phone numbers if their ID number is greater than 5000.

SubQueries(1):

Select Appointment_ID, Appointment_duration
From Appointment
Where Patient_ID = (
Select MAX(Patient_ID) FROM Appointment
);

--This query shows the appointment id and the appointment duration for the highest patient id.

SubQueries(2):
SELECT
   Medicine_listID,
   Medicine_name,
   Medicine_price
FROM
  Medicine
WHERE
  Medicine_price > (
     SELECT
       AVG(Medicine_price)
     FROM
       Medicine
)
ORDER BY
  Medicine_name;

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_PRICE
1	685739	Acetylsalicylic acid	20
2	745594	Dexamethasone	20
3	946764	Diazepam	20
4	399455	Fluoxetine	20
5	301650	Haloperidol	20
6	862192	Hyoscine butylbromide	20
7	267804	Lactulose	20
8	338239	Loperamide	20
9	771427	Lorazepam	20
10	104585	Metoclopramide	20
11	962457	Oxycodone	20

--This query shows the output for the Medicine_listID, Medicine_name and its pricings from the medicine table for the Medicine_price that is greater than the average price. It

Triggers:

Create view medicineView as select * from Medicine;

Create trigger medicine_order
instead of update on medicineView
for each row
begin
IF :new.Medicine_Qty > :new.minimum_order THEN
UPDATE Medicine
SET reorder = 0, Medicine_Qty = :new.Medicine_Qty, minimum_order = :new.minimum_order
WHERE Medicine_code = :new.Medicine_code;
ELSE
UPDATE Medicine
SET reorder = 1, Medicine_Qty = :new.Medicine_Qty, minimum_order = :new.minimum_order
WHERE Medicine_code = :new.Medicine_code;
END IF;
end;

Update medicineView
Set Medicine_Qty = 6
Where Medicine_code = 'x201'

Select * from Medicine;

Update medicineView
Set minimum_order = 7
Where Medicine_code = 'x201'

Select * from Medicine;

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_CODE	MEDICINE_QTY	MEDICINE_PRICE	MINIMUM_ORDER	REORDER
1	547355	Paracetamol	x201	6	10	7	1
2	685739	Acetylsalicylic acid	x203	50	20	5	0
3	176383	Fentanyl	x204	50	10	5	0
4	149937	Morphine	x205	50	10	5	0
5	962457	Oxycodone	x206	100	20	5	0
6	128894	Tramadol	x207	50	10	5	0
7	348430	Dihydrocodeine tartrate	x208	100	10	5	0
8	822325	Amitriptyline	x209	50	10	5	0
9	745594	Dexamethasone	x210	50	20	5	0
10	946764	Diazepam	x211	50	20	5	0
11	399455	Fluoxetine	x212	50	20	5	0
12	301650	Haloperidol	x213	100	20	5	0
13	862192	Hyoscine butylbromide	x214	100	20	5	0
14	267804	Lactulose	x215	100	20	5	0
15	338239	Loperamide	x216	100	20	5	0
16	771427	Lorazepam	x217	100	20	5	0
17	104585	Metoclopramide	x218	100	20	5	0
18	110436	Midazolam	x219	50	10	5	0
19	115031	Ondansetron	x220	50	10	5	0

--This trigger lets the user update and change the row values in the Medicine table.

Aggregate function(COUNT):

Select COUNT(*) From Patient
Where Patient_Address = 'Melaka';

	COUNT(*)
1	5

--This aggregate function counts the number of patients residing in Melaka.

Aggregate function(SUM):

```
SELECT
    Medicine_listID,
    SUM( Medicine_Qty * Medicine_price ) order_total
FROM
    Medicine
GROUP BY
    Medicine_listID
ORDER BY
    order_total DESC;
```

	MEDICINE_LISTID	ORDER_TOTAL
1	267804	2000
2	338239	2000
3	771427	2000
4	301650	2000
5	962457	2000
6	862192	2000
7	104585	2000
8	399455	1000
9	946764	1000
10	745594	1000
11	348430	1000
12	685739	1000
13	128894	500
14	149937	500
15	176383	500
16	115031	500
17	110436	500
18	822325	500
19	547355	60

-- This query shows how the sum function works.

Group By and Having(1):

```
Select Patient_address, COUNT(*)
FROM Patient
GROUP BY  Patient_address
Having COUNT(*) > 3;
```
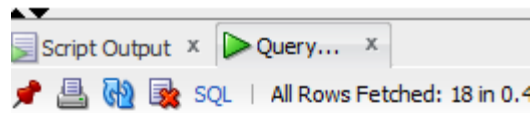
-- This query shows the addresses where more than 3 patients reside.

Group By and Having(2):

```
SELECT
    Medicine_listID,
    SUM( Medicine_price * Medicine_Qty ) order_value
FROM
    Medicine
GROUP BY
    Medicine_listID
HAVING
    SUM( Medicine_price * Medicine_Qty ) > 100
ORDER BY
    order_value DESC;
```

	MEDICINE_LISTID	ORDER_VALUE
1	267804	2000
2	104585	2000
3	771427	2000
4	862192	2000
5	301650	2000
6	338239	2000
7	962457	2000
8	399455	1000
9	685739	1000
10	946764	1000
11	745594	1000
12	348430	1000
13	115031	500
14	822325	500
15	110436	500
16	128894	500
17	149937	500
18	176383	500

--The group by clause makes groups by their id and proceeds to calculate the order value using SUM(). After that the Having clause filters every values that is less than 100 and shows it in descending order

Display top n record (10 records):

Select * From
(Select * From Medicine ORDER BY Medicine_listID DESC)

Medicine2
Where rownum <= 10
ORDER BY rownum;

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_CODE	MEDICINE_QTY	MEDICINE_PRICE	MINIMUM_ORDER	REORDER
1	962457	Oxycodone	x206	100	20	5	0
2	946764	Diazepam	x211	50	20	5	0
3	862192	Hyoscine butylbromide	x214	100	20	5	0
4	822325	Amitriptyline	x209	50	10	5	0
5	771427	Lorazepam	x217	100	20	5	0
6	745594	Dexamethasone	x210	50	20	5	0
7	685739	Acetylsalicylic acid	x203	50	20	5	0
8	547355	Paracetamol	x201	6	10	7	1
9	399455	Fluoxetine	x212	50	20	5	0
10	348430	Dihydrocodeine tartrate	x208	100	10	5	0

--This query shows result for top 10 records in the medicine table.

Display top n record (15 records):

Select * From
(Select * From Medicine ORDER BY Medicine_name)
Medicine2
Where rownum <= 15
ORDER BY rownum;

SQL | All Rows Fetched: 15 in 0.344 seconds

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_CODE	MEDICINE_QTY	MEDICINE_PRICE	MINIMUM_ORDER	REORDER
1	685739	Acetylsalicylic acid	x203	50	20	5	0
2	822325	Amitriptyline	x209	50	10	5	0
3	745594	Dexamethasone	x210	50	20	5	0
4	946764	Diazepam	x211	50	20	5	0
5	348430	Dihydrocodeine tartrate	x208	100	10	5	0
6	176383	Fentanyl	x204	50	10	5	0
7	399455	Fluoxetine	x212	50	20	5	0
8	301650	Haloperidol	x213	100	20	5	0
9	862192	Hyoscine butylbromide	x214	100	20	5	0
10	267804	Lactulose	x215	100	20	5	0
11	338239	Loperamide	x216	100	20	5	0
12	771427	Lorazepam	x217	100	20	5	0
13	104585	Metoclopramide	x218	100	20	5	0
14	110436	Midazolam	x219	50	10	5	0
15	149937	Morphine	x205	50	10	5	0

--This query shows result for top 15 rows in the medicine table

Auto increment :

Create Sequence seq_doctor_ID
Start With 1
Increment by 1
NOCACHE
NOCYCLE;

Create or Replace Trigger trigger_doctor
Before Insert
ON Doctor
For Each Row
Begin
:new.Doctor_ID:=seq_doctor_ID.nextval;
END;

Insert into Doctor (Doctor_name) values ('Elise');

Select * from Doctor;

	DOCTOR_ID	DOCTOR_NAME	DOCTOR_PHONENUMBER
1	6778	Dr. Chu Sik Fai	60378723454
2	9028	Dr. P.S. Nathan	60378723487
3	7567	Dr. Assunta Davadas	60378723937
4	4263	Dr. Joseph Lam Pak Shin	60378723010
5	8745	Dr. Rani Ganesalingam	60378723021
6	2525	Dr. Kum Sui Yin	60378720493
7	6826	Dr.Lam Kai Huat	60378723050
8	7777	Dr. Nicholas Chua Yul Chye	60378720705
9	4044	Dr. Venugopal Balchand	60378723204
10	6534	Dr. Michael Ong Ah Hup	60378723004
11	1819	Dr. Saraspathey	60378723443
12	1432	Dr. Somasundran	60378723002
13	9835	Dr. Chang Chew Min	60378728208
14	4972	Dr. Lim Wye Kit	60378723968
15	3088	Dr. Ho Yin Ngun	60378724624
16	8392	Dr. Jeeta K. Muthumanikam	60378723040
17	6730	Dr. Suresh Raj Lachmanan	60378723379
18	6830	Dr. Thye Yuen Lin	60378724645
19	2574	Dr. Tan Hee Wu	60378723021
20	6864	Dr. Jaswant Singh	60378723077
21	1	Elise	(null)

SQL | All Rows Fetched: 21 in 0.134 seconds

--In this query we have the seq_doctor_id sequence which can be accessed by multiple users to generate values. It stops us from creating duplicate values and users have to take turns to enter each data.
After that we create a Trigger named Trigger_doctor which ensures our sequence is incremented.

Case statement:

Select Medicine_listID, Medicine_name, Medicine_price,
CASE
 WHEN Medicine_price > 15 Then 'Price is over RM 15'
 WHEN Medicine_price < 15 Then 'Price is under RM 15'
 END price_group
 From Medicine;

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_PRICE	PRICE_GROUP
1	547355	Paracetamol	10	Price is under RM 15
2	685739	Acetylsalicylic acid	20	Price is over RM 15
3	176383	Fentanyl	10	Price is under RM 15
4	149937	Morphine	10	Price is under RM 15
5	962457	Oxycodone	20	Price is over RM 15
6	128894	Tramadol	10	Price is under RM 15
7	348430	Dihydrocodeine tartrate	10	Price is under RM 15
8	822325	Amitriptyline	10	Price is under RM 15
9	745594	Dexamethasone	20	Price is over RM 15
10	946764	Diazepam	20	Price is over RM 15
11	399455	Fluoxetine	20	Price is over RM 15
12	301650	Haloperidol	20	Price is over RM 15
13	862192	Hyoscine butylbromide	20	Price is over RM 15
14	267804	Lactulose	20	Price is over RM 15
15	338239	Loperamide	20	Price is over RM 15
16	771427	Lorazepam	20	Price is over RM 15
17	104585	Metoclopramide	20	Price is over RM 15
18	110436	Midazolam	10	Price is under RM 15
19	115031	Ondansetron	10	Price is under RM 15

--This query is a case statement that returns the Medicine_listID, Medicine_name and Medicine_price as "Price is over rm15" if the price is over 15 and "Price is under rm15" if the price is under rm15.

Any, all or some query:

Select * From Medicine
WHERE Medicine_price <= all (Select Medicine_price from Medicine);

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_CODE	MEDICINE_QTY	MEDICINE_PRICE	MINIMUM_ORDER	REORDER
1	822325	Amitriptyline	x209	50	10	5	0
2	348430	Dihydrocodeine tartrate	x208	100	10	5	0
3	128894	Tramadol	x207	50	10	5	0
4	110436	Midazolam	x219	50	10	5	0
5	149937	Morphine	x205	50	10	5	0
6	176383	Fentanyl	x204	50	10	5	0
7	115031	Ondansetron	x220	50	10	5	0
8	547355	Paracetamol	x201	6	10	7	1

--This query shows all the cheapest medicines in the Medicine table.

Select * From Medicine
WHERE Medicine_price < any (Select Medicine_price from Medicine);

SQL | All Rows Fetched: 8 in 4.905 seconds

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_CODE	MEDICINE_QTY	MEDICINE_PRICE	MINIMUM_ORDER	REORDER
1	110436	Midazolam	x219	50	10	5	0
2	176383	Fentanyl	x204	50	10	5	0
3	115031	Ondansetron	x220	50	10	5	0
4	822325	Amitriptyline	x209	50	10	5	0
5	348430	Dihydrocodeine tartrate	x208	100	10	5	0
6	128894	Tramadol	x207	50	10	5	0
7	547355	Paracetamol	x201	6	10	7	1
8	149937	Morphine	x205	50	10	5	0

Select * From Medicine
WHERE Medicine_price < some (Select Medicine_price from Medicine);

SQL | All Rows Fetched: 8 in 0.106 seconds

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_CODE	MEDICINE_QTY	MEDICINE_PRICE	MINIMUM_ORDER	REORDER
1	110436	Midazolam	x219	50	10	5	0
2	176383	Fentanyl	x204	50	10	5	0
3	115031	Ondansetron	x220	50	10	5	0
4	822325	Amitriptyline	x209	50	10	5	0
5	348430	Dihydrocodeine tartrate	x208	100	10	5	0
6	128894	Tramadol	x207	50	10	5	0
7	547355	Paracetamol	x201	6	10	7	1
8	149937	Morphine	x205	50	10	5	0

--This query is the same as 'any' query.

Select * From Medicine
WHERE Medicine_price < some (Select Medicine_price from Medicine);

SQL | All Rows Fetched: 8 in 0.106 seconds

	MEDICINE_LISTID	MEDICINE_NAME	MEDICINE_CODE	MEDICINE_QTY	MEDICINE_PRICE	MINIMUM_ORDER	REORDER

Contributions to the assignment by group member:

Azmina Sharaf (1181102970): Corrected the ERD, Created Data Dictionaries, Constructed Tables for Patient, Doctor, Schedule, Appointment, Medicine (partly), Prescription and Payment table.

Wrote Oracle codes for tables such as Patient, Doctor, Schedule, Medicine,Prescription,Insurance, Payment and Appointment Table.

Made row entries for Patient, Doctor, Schedule, Medicine, Prescription,Appointment and Payment Tables respectively.

Wrote and coded all the Queries.

Shasvin A/L Sasetharan(1171002300); Normalised the ERD, Constructed Tables for Medicine(Partly), Bill and Insurance.

Wrote Oracle codes of tables such as Bill.

Made row entries for Insurance and Bill tables respectively.