

DKT 223 DATABASE SYSTEM

ASSIGNMENT 2

Answer all questions. To answer these questions, you may either

- i. type / use any word processing software (e.g. Microsoft Word) and save as .pdf
- ii. write / draw on a piece of paper and scan / snap the answer

You must write your name and matric number on each page of your answer sheet.

Submit your assignment via Google Classroom **before 16 April 2020 16:30**.

QUESTION 1

Draw ER diagram or relational diagram for this scenario:

The XYZ chain of pharmacies has offered to give you a free lifetime supply of medicine if you design its database. Given the rising cost of health care, you agree with the offer. Here is the information that you have gathered. **Patients** are identified by **PatientID**. Other attributes are **names, addresses and ages**. **Doctors** are identified by **DoctorID**. Other attributes are **name, specialty and years of experience**. **Doctors prescribe drugs for patients**. **A doctor could prescribe one or more drugs for several patients** and **a patient could obtain prescriptions from several doctors**. Each **prescription** has a **date** and a **quantity** associated with it. For each **drug**, the **trade name** (e.g. Panadol, Dequadine, etc.) and **formula** must be recorded. Each **pharmacy** has a **unique name, address** and a **phone number**. **Each pharmacy sells several drugs and has a price for each**. **A drug could be sold at several pharmacies and the price could vary from one pharmacy to another**

- a. From the diagram, identify the foreign key.
- b. Produce some sample tables for these relations that observe the relational integrity rules. Suggest some enterprise constraints that would be appropriate for this schema.

(20 marks)

//This is relational schema. Not an ERD.

Patient (PatientID {PK}), PName, PAdd, PAge)

Doctor (DocID, DocName, Specialty, YearExp)

Prescription (PrescriptionID {pk}, Date, quantity, PatientID {fk}, DocID {fk})

Drug (TradeName {PK}, Formula)

PrescriptionDrug (PrescriptionID {pk}, TradeName {PK})

Pharmacy (UniqueName {PK}, PharmacyAdd, PharmacyPhone)

PriceDrug (UniqueName {PK}, TradeName {PK}, Price)

Example of sample table:

PatientID	PName	PAdd	PAge
1123	Ahmad	11, Jalan 3, Taman Seladang, Alor Setar, Kedah	23
1452	Siti	20, Jalan 5, Taman Kancil, Alor Setar, Kedah	20

Enterprise constraints example : // any suitable answer. E.g. The drug price is in MYR, PatientID is based on the last 4 digits of their IC number

QUESTION 2

- a. The following tables form part of a database held in a relational DBMS. Based on the following table structure, create SQL statement for each of the following questions.

STUDENT

MatricNo	StudentName	Address	ProgrammeID
P001	Ahmad Ali	Kuala Lumpur	AT20
P002	Saadiah Hassan	Batu Pahat, Johor	AT14
P003	Chong Wai	Ipoh, Perak	AT20

LECTURER

StaffNo	StaffName	RoomNo	FacultyID
A0011	Halisa Abdul Hamid	3B-12	FTMK
A0003	Mohd Kamal Ariffin	2A-11	FTMK
A0034	Vikneswary a/p Marimuthu	2B-02	FST

APPOINTMENT

ApmntNo	MatricNo	StaffNo	ApmntDate	ApmntTime
1	P003	A0011	3/1/2019	3:00 pm
2	P003	A0003	6/5/2019	3:00 pm
3	P001	A0011	5/6/2019	9:00 am
4	P002	A0034	3/7/2019	4:00 pm

- i. List full details of all students under programme AT20, alphabetically ordered by name.

(3 marks)

```
SELECT * FROM STUDENT WHERE ProgrammeID = 'AT20' Order by StudentName;
```

MatricNo	StudentName	Address	ProgrammeID
P001	Ahmad Ali	Kuala Lumpur	AT20
P003	Chong Wai	Ipoh, Perak	AT20

- ii. How many students register for Appointment System?

(3 marks)

```
SELECT COUNT (DISTINCT MatricNo) FROM Appointment;
```

- iii. List the names and matric number of all students register for an appointment at 3:00 pm.

(3 marks)

```
SELECT Student.StudentName, Student.MatricNo
FROM Student, Appointment, Lecturer
WHERE Student.MatricNo = Appointment.MatricNo AND
Appointment.ApmntTime = '3:00 pm';
```

- iv. List the names of students register for appointment with Mdm Halisa.

(3 marks)

```
SELECT Student.StudentName
```

**FROM Student, Appointment, Lecturer
WHERE Lecturer. StaffNo = Appointment.StaffNo AND
Lecturer. StaffName = 'Halisa Abdul Hamid' AND Appointment.MatricNo =
Student.MatricNo;**

StudentName

Chong Wai

Ahmad Ali

v. Insert new record into table Appointment using following data.

ApmntNo = 5
StudentName = Ahmad Ali
StaffName = Mohd Kamal Ariffin
ApmntDate = 6/5/2019
ApmntTime = 9:00 am

(4 marks)

**INSERT INTO Appointment (ApmntNo, MatricNo, StaffNo, ApmntDate, ApmntTime)
VALUES ('5', 'P001', 'A0003', '6/5/2019', '9:00 am');**

vi. Change the record of student named "Chong Wai" into new data as following:

StudentName = Chong Wai Chi
Address = Alor Star, Kedah
ProgrammeID = AT24

(4 marks)

UPDATE Student

**Set StudentName = 'Chong Wai Chi', Address = 'Alor Star, Kedah', ProgrammeID =
'AT24'**

WHERE StudentName = 'Chong Wai';

MatricNo	StudentName	Address	ProgrammeID
P001	Ahmad Ali	Kuala Lumpur	AT20
P002	Saadiah Hassan	Batu Pahat, Johor	AT14
P003	Chong Wai Chi	Alor Star, Kedah	AT24