CMSC243: Systems Analysis and Design

Assignment 9: Database Design

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Task 1*: Unnormalized table: Select the two entities with the most attributes. Name the entity and list the attributes. If the cardinality is not 1 and only 1 make a note of that. 5 points*

Patient

- Patient ID
- Patient Name
- Family Id
- **Prescription: 0 to many**
- **Appointment: 0 to many**
- Gender
- Email
- Phone number
- Patient Date of Birth

Family

- Family ID
- Patient ID: 1 to many
- Address: street1, street2, city, state, zip code

Task 2: *First Normal Form: Show each entity without repeating fields.*
Create a separate entity for the relationship. 5 points

Task 3: *Second/Third Normal Form: Show the key or keys for each table. All values in the table must depend on the full key. Do this by making the key or keys bold in task 2. 5 points*

Tasks 2 and 3 combined:

Patient

- **Patient ID**
- Patient Name
- Family Id
- Gender
- Email
- Phone number
- Patient Date of Birth

Patient Prescription

- **Patient ID**
- **RX Number**
- Medicine Name
- Dosage
- Refills remaining

- Prescriber ID
- Prescription Date

Patient Appointment

- **Patient ID**
- **Appointment number**
- Physician ID
- Appointment Date/time

Family

- **Family ID**
- Address: street1, street2, city, state, zip code

Family Member

- **Family ID**
- **Patient ID**

Task 4: *Show an example for each table. If possible, represent the same entity in each table to show the relationship. 5 points*

Patient

Patient ID	Patient Name	Family Id	Gender	Email	Phone number	Patient Date of Birth
BANROB19800230	Banks,Robin	B2409	F	rbanks@myplace.com	3019832004	19800230

Patient Prescription

Patient ID	RX Number	Medicine Name	Dosage	Refills remaining	Prescriber ID	Prescription Date
BANROB19800230	LV34982020	Azithromycin	1 per day	0	RNg34908	20201208

Patient Appointment

Patient ID	Appointment Number	Physician ID	Appointment Date/time
BANROB19800230	A20201207	RNg34908	20201208/1300

Family

Family ID	Street 1	Street 2	City	State	Zip code
B2409	123 Cattle Drive	Apt 203	Abilene	TX	79601

Family Member

Family ID	Patient ID
B2409	BANROB19800230