Deliverable # 2: Relational Schema for the MNHS

Data Management Course
UM6P College of Computing

Professor: Karima Echihabi **Program:** Computer Engineering
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Team Information

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Repository Link	https://github.com/therealzaini/DMG_LAB2_LEO_FL_BERNABEU

1 Part 1

1. Staff
- Primary Key: Staff_Id
- Attributes: name, statue

2. Practionners
- Primary Key: Staff_id
- Attributes: specialty, license_number

3. Caregiving
- Primary Key: Staff_id
- Attributes: ward, grade

4. Technical
- Primary Key: Staff_id
- Attributes: modality, certification

5. Hospital
- Primary Key: HID
- Attributes: name, city, region

6. Dept
- Primary Key: DEP_ID
- Attributes: name, speciality, HID

7. Work_in
- Primary Key: (Staff_id, Dep_id)
- Attributes: Staff_id, Dep_id

We did a composite key because this is a many to many relationship between staff and departement and also that s why the primary key is a tupple of both their primary keys respectively.

8. Medication
- Primary Key: Drug_id
- Attributes: Class, name, form, strength, active_ingredient, manufacturer

9. Stock
- Primary Key: (HID, Drug_id)
- Attributes: HID, Drug_id, Unit_Price, qty, stock_timestamp, reorder_level

We did a composite key because this is a many to many relationship between HID and medication and also that s why the primary key is a tupple of both their primary keys respectively.

10. Prescription
- Primary Key: PID
- Attributes: DateIssued, CAID

11. Include
- Primary Key: (PID, Drug_id)
- Attributes: PID, Drug_id, Dosage, Duration

We did a composite key because this is a many to many relationship between prescription and medication and also that s why the primary key is a tupple of both their primary keys respectively.

12. Patient
- Primary Key: IID
- Attributes: CIN, name, sex, birth_date, blood_group, Phone

13. Contact_Location
- Primary Key: CLID
- Attributes: city, province, street, Number, Postal_Code, Phone

14. Have
- Primary Key: (CLID, IID)
- Attributes: CLID, IID

We did a composite key because this is a many to many relationship between contact location and patient and also that s why the primary key is a tupple of both their primary keys respectively.

15. Insurance
- Primary Key: InsID
- Attributes: Type

16. Covers
- Primary Key: (InsID, IID)
- Attributes: InsID, IID

We did a composite key because this is a many to many relationship between insurance and patient and also that s why the priamry key is a tupple of both their primary keys respectively.

17. Expense
- Primary Key: ExId
- Attributes: Total, InsID, CAID

18. Clinical_activity
- Primary Key: CAID
- Attributes: Time, Date, Dep_id, Staff_id, IID, ExId, PID

19. Appointment
- Primary Key: CAID
- Attributes: Reason, Statues

20. Emergency
- Primary Key: CAID
- Attributes: triage_level, outcome

2 Part 2

Foreign Keys:

- FOREIGN KEY "Staff_id" in "Practitioners" Table, referencing Primary key "Staff_Id" in "Staff" Table
- FOREIGN KEY "Staff_id" in "Caregiving" Table, referencing Primary key "Staff_Id" in "Staff" Table
- FOREIGN KEY "Staff_id" in "technical" Table, referencing Primary key "Staff_Id" in "Staff" Table
- FOREIGN KEY "HID" in "dept" Table, referencing Primary key "HID" in "hospital" Table
- FOREIGN KEY "Staff_id" in "Work_in" Table, referencing Primary key "Staff_Id" in "Staff" Table
- FOREIGN KEY "dep_id" in "Work_in" Table, referencing Primary key "dep_id" in "dept" Table
- FOREIGN KEY "HID" in "stock" Table, referencing Primary key "HID" in "hospital" Table
- FOREIGN KEY "Drug_id" in "stock" Table, referencing Primary key "Drug_id" in "medication" Table
- FOREIGN KEY "PID" in "Include" Table, referencing Primary key "PID" in "Prescription" Table
- FOREIGN KEY "Drug_id" in "Include" Table, referencing Primary key "Drug_id" in "medication" Table

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- FOREIGN KEY "IID" in "Have" Table, referencing Primary key "IID" in "Patient" Table
- FOREIGN KEY "CLID" in "Have" Table, referencing Primary key "CLID" in "Contact_Location" Table
- FOREIGN KEY "IID" in "Covers" Table, referencing Primary key "IID" in "Patient" Table
- FOREIGN KEY "InsID" in "Covers" Table, referencing Primary key "InsID" in "Insurance" Table
- FOREIGN KEY "InsID" in "Expense" Table, referencing Primary key "InsID" in "Insurance" Table
- FOREIGN KEY "PID" in "Clinical_activity" Table, referencing Primary key "PID" in "Prescription" Table
- FOREIGN KEY "ExId" in "Clinical_activity" Table, referencing Primary key "ExId" in "Expense" Table
- FOREIGN KEY "IID" in "Clinical_activity" Table, referencing Primary key "IID" in "Patient" Table
- FOREIGN KEY "Dep_id" in "Clinical_activity" Table, referencing Primary key "Dep_id" in "dept" Table
- FOREIGN KEY "Staff_id" in "Clinical_activity" Table, referencing Primary key "Staff_id" in "Staff" Table
- FOREIGN KEY "CAID" in "appointment" Table, referencing Primary key "CAID" in "Clinical_activity" Table
- FOREIGN KEY "CAID" in "Emergency" Table, referencing Primary key "CAID" in "Clinical_activity" Table
- FOREIGN KEY "CAID" in "Prescription" Table, referencing Primary key "CAID" in "Clinical_activity" Table
- FOREIGN KEY "CAID" in "Expense" Table, referencing Primary key "CAID" in "Clinical_activity" Table

Participations:

The participation of (Contact Location) in the (Have) relationship is partial.
The participation of (Patient) in the (Have) relationship is partial.
The participation of (Staff) in the (Work In) relationship is total.
The participation of (Department) in the (Work In) relationship is partial.
The participation of (Department) in the (Occurs) relationship is partial.
The participation of (Department) in the (Belongs) relationship is total.
The participation of (Hospital) in the (Belongs) relationship is partial.
The participation of (Hospital) in the (Stock) relationship is partial.
The participation of (Medication) in the (Stock) relationship is partial.
The participation of (Clinical Activity) in the (Occurs) relationship is total.
The participation of (Clinical Activity) in the (Linked) relationship is total.
The participation of (Clinical Activity) in the (Has) relationship is total.
The participation of (Clinical Activity) in the (Generates) relationship is total.
The participation of (Clinical Activity) in the (Generate) relationship is partial.
The participation of (Medication) in the (Include) relationship is partial.
The participation of (Prescription) in the (Include) relationship is partial.
The participation of (Prescription) in the (Generate) relationship is total.
The participation of (Expense) in the (Generates) relationship is total.
The participation of (Expense) in the (Attached) relationship is partial.
The participation of (Insurance) in the (Attached) relationship is partial.
The participation of (Insurance) in the (Covers) relationship is partial.
The participation of (Patient) in the (Covers) relationship is partial.

Domain Checks:

Staff:
- Staff_Id: INT
- name: VARCHAR(50)
- status: VARCHAR(50)

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Practionners:
- Staff_id: INT
- specialty: VARCHAR(50)
- license_number: INT

Caregiving:
- Staff_id: INT
- ward: VARCHAR(50)
- grade: VARCHAR(50)

Technical:
- Staff_id: INT
- modality: VARCHAR(50)
- certification: VARCHAR(50)

Hospital:
- HDI: INT
- name: VARCHAR(50)
- city: VARCHAR(50)
- region: VARCHAR(50)

Dept:
- DEP_ID: INT
- name: VARCHAR(50)
- speciality: VARCHAR(50)
- HDI: INT

Work_in:
- Staff_id: INT
- Dep_id: INT

Medication:
- Drug_id: INT
- Class: VARCHAR(50)
- name: VARCHAR(50)
- form: VARCHAR(50)
- strength: VARCHAR(50)
- active_ingredient: VARCHAR(50)
- manufacturer: VARCHAR(50)

Stock:
- HID: INT
- Drug_id: INT
- Unit_Price: REAL
- qty: INT
- stock_timestamp: DATE
- reorder_level: VARCHAR(50)

Prescription:
- PID: INT
- DateIssued: DATE
- CAID: INT

Include:
- PID: INT
- Drug_id: INT
- Dosage: REAL
- Duration: VARCHAR(50)

Patient:
- IID: INT
- CIN: VARCHAR(50)
- name: VARCHAR(50)
- sex: VARCHAR(50)
- birth_date: DATE
- blood_group: VARCHAR(50)
- Phone: VARCHAR(50)

Contact_Location:
- CLID: INT
- city: VARCHAR(50)
- province: VARCHAR(50)
- street: VARCHAR(50)
- Number: INT
- Postal_Code: INT
- Phone: VARCHAR(50)

Have:
- CLID: INT
- IID: INT

Insurance:
- InsID: INT
- Type: VARCHAR(50)

Covers:
- InsID: INT
- IID: INT

Expense:
- ExId: INT
- Total: REAL
- InsID: INT
- CAID: INT

Clinical_activity:
- CAID: INT
- Time: VARCHAR(50)
- Date: DATE
- Dep_id: INT
- Staff_id: INT
- ID: INT
- ExId: INT
- PID: INT

Appointment:
- CAID: INT
- Reason: VARCHAR(50)
- Statues: VARCHAR(50)

Emergency:
- CAID: INT
- triage_level: VARCHAR(50)
- outcome: VARCHAR(50)

3   Part 3

See the implementation.sql file.