Database Design SQL Lab Scenario

Semester 1 – Academic Year 2022-23

Database Design Lab Assignment 0

Objectives:

At the end of the class students should be able to:

1. Create an Entity Relationship Diagram (ERD) from a scenario
2. Derive a file structure using Relational Notation from an ERD

Scenario: New Medical Diagnostics Ltd.

New Medical Diagnostic Institute conducts their business through doctors recommending their patients for imaging services at any one of 3 locations with plans to increase that number by expanding in the Caribbean. The need for the services has been increasing because of a health conscious public and pro-active doctors. In order to better serve these patients the CEO of the company have asked you to create a database to help manage their daily activities of the business.

The following details are needed for patients: TRN, name (firstname, lastname), dob, address, a mobile number and emails. The institute also wants to keep a log of the referring doctor who serves as the family physician. The following details are needed for the doctor: first name, last name, business address, specialization (GP, cardio, gynaeo or paedi or other) and phone number and an automatically generated ID.

They need to store for each location, its id, name, address (street, town, parish), and phone number. A location will offer at least two procedures and a procedure may be done at more than one location. The following are the Imaging Services offered and their cost:- MRI at a cost of $33,000, CT Scan $45,000, Ultra-Sound $8,000, X-Ray $40,000, Mammograms $28,000 and Flouroscopy $80,000

The institution also wants to track their employees' information which includes: name, employment date, address, position and job description. Whenever a procedure is to be done, the institution would like to know the employee(s) responsible for assisting the patient with the procedure. An employee may also supervise one or more employees.

The company would also like to store information about the payment patients make for a procedure to include the amount due, amount paid and date of the payment. Patients can make at most 3 installation payments . Each payment has an autoincremented sequence number that is numbered from 1000

Required

1. Create an Entity Relationship Diagram (ERD) to show the conceptual design of the relational database. (DONE)
2. Use the ERD to create a set of normalized tables for the database design. (TO BE DONE)

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Entity Relational Diagram