

CS 353 Fall 2023

Homework 2

Due: October 6, Friday till midnight

You will use the Moodle course page for submission of this assignment

Q.1 [70 points] Draw an **E/R** diagram to maintain information about a hospital. The following information should be captured in your model (use draw.io or another diagramming tool):

- Hospital staff are identified by TCK number, and their name and phone number are also recorded. The hospital staff consists of doctors, nurses, and support personnel.
- Doctors have office number, specialty and year of experience, nurses have specialty, and support personnel have duty type.
- Each nurse works with at least one doctor.
- There exist a number of clinics (e.g., Cardiology, Dermatology, Gastroenterology, etc.) in the hospital. Each clinic has a unique name. The number of rooms in each clinic is also recorded.
- Doctors and nurses are assigned to clinics starting from a certain date. Each doctor is assigned to a single clinic, while a nurse can be assigned to multiple clinics.
- A doctor can be consulting with some other doctors.
- A patient is admitted to one or more clinics in the hospital. TCK number, name, age, phone number, and address are recorded for each patient. The admission date and discharge date information are maintained for each admission.
- Each patient is treated by at least one doctor.
- A patient may undergo a number of tests. A test is associated with a unique id, name, date, and result. Each test is ordered by a doctor.

Q.2 [30 pts] Translate the **E/R** diagram of the previous question into the relational model (i.e., give the relation schemas for each case specifying the table names, together with the attributes, and primary key and foreign key constraints).