Assignment # 5 **Date: 10/2/26**

Aim of today's lab is to focus: (ER+ relational schema+ join +nested queries)

Consider a hospital having several departments (like cardiology, medicine, neurology, etc.). Each doctor can belong to only one department but a department can have multiple doctors. A patient may be admitted under more than one department and be assigned to one or more doctors of different departments. There is a date of admission and a date of release for each patient. A patient is identified by a Patient_Id. For each patient, we also maintain information like first name, last Name, address (comprised of house no., area, pincode and state), gender, date of birth, and one or more phone numbers. Every doctor has Doctor_Id, name, date of birth, department and highest degree. A department is identified by its department_code. Other attributes of a department are department name, phone number, name of the HoD and number of wards.

1. First draw the **ER diagram** and derive the **tables** using correct rules for relational model generation from the ER diagram.
2. Execute the following **queries** based on the problem stated above.

    a. List the patients (Patient_Id, Name) so far admitted under each doctor (Doctor_Id, Name) who have not been admitted in the same department to which the doctor belongs.
    b.
    c. List the patients (Patient_Id, Name) so far admitted under each doctor (Doctor_Id, Name) who have been admitted under more than one department.
    d. List the patients (Patient_Id, Name) currently admitted under each doctor (Doctor_Id, Name), i.e., the patients who have been admitted but not yet been released.
    e. List the department(s) (Names) having maximum number of patients.
    f. List the doctors (Doctor_Id, Name) who never treated any patient from Neurology.
    g. Patients (Patient_Id, Name) who were never admitted under the HoD's department.