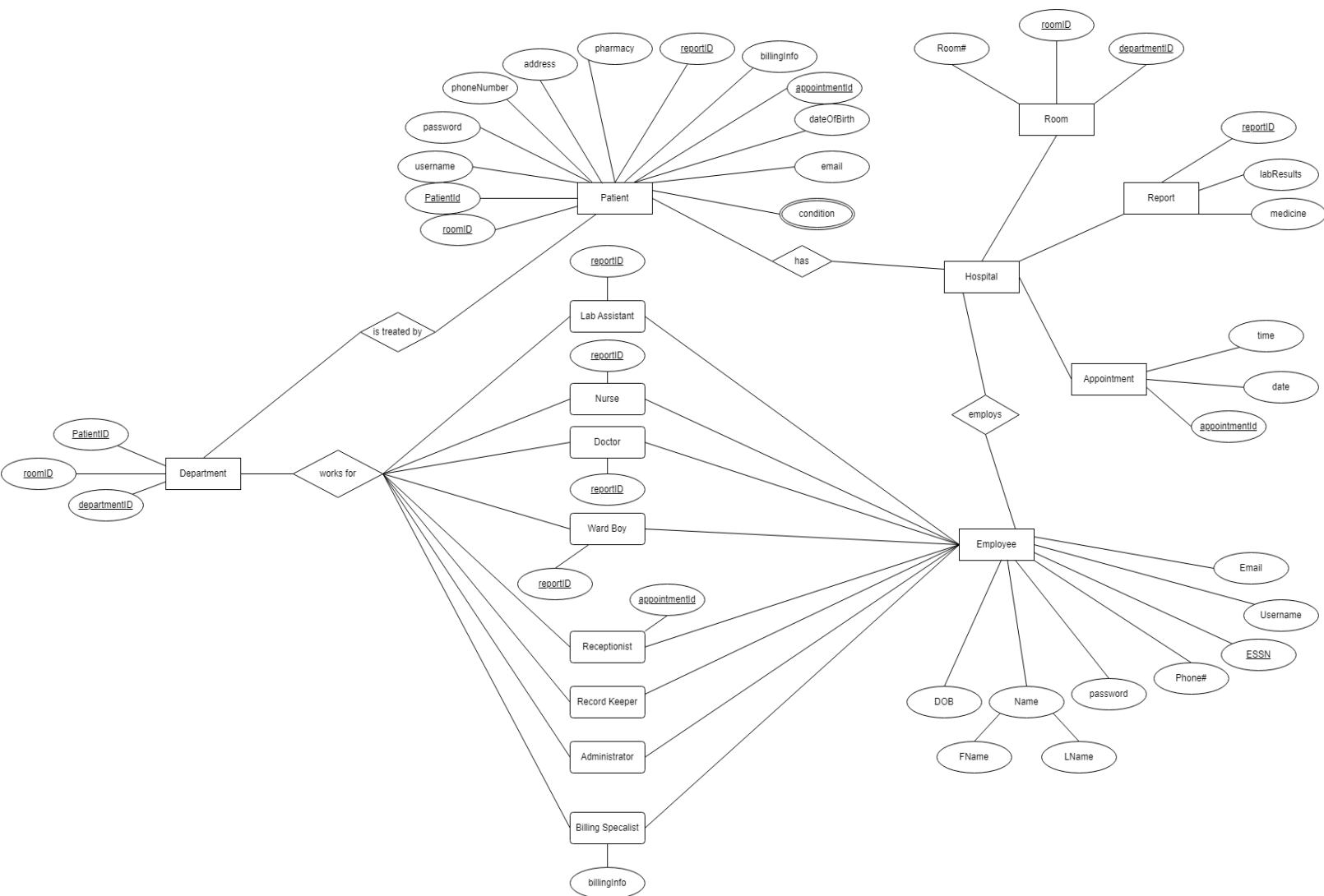
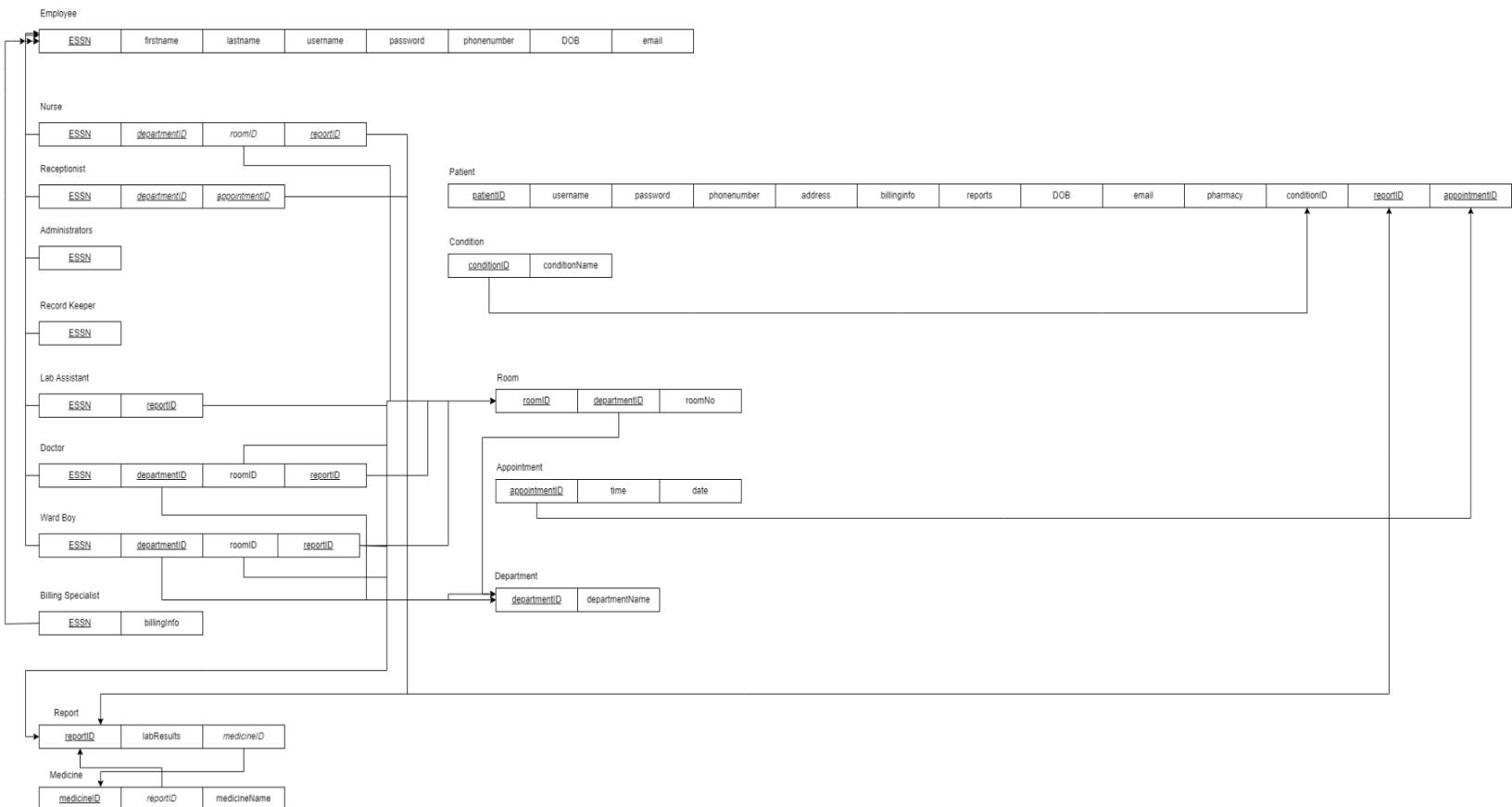


CS 4347.503

## Phase 2

### ER Diagram:





## Database Schema

### List of business rules and integrity constraints:

#### Integrity Constraints:

1. Employee
  - a. The attribute ESSN is the primary key to Employee
2. Nurse:
  - a. The attribute ESSN is the foreign key to relation Employee
  - b. The attribute departmentID is the foreign key relation to Department
  - c. The attribute reportID is the foreign key relation to Report
  - d. The attribute roomID is the foreign key relation to Room
3. Receptionist
  - a. The attribute ESSN is the foreign key to relation Employee
  - b. The attribute departmentID is the foreign key relation to Department
  - c. The attribute appointmentID is the foreign key relation to Appointment

4. Administrator
  - a. The attribute ESSN is the foreign key to relation Employee
5. Record Keeper
  - a. The attribute ESSN is the foreign key to relation Employee
  - b. The attribute reportID is the foreign key relation to Report
6. Lab Assistant
  - a. The attribute ESSN is the foreign key to relation Employee
  - b. The attribute reportID is the foreign key relation to Report
7. Doctor
  - a. The attribute ESSN is the foreign key to relation Employee
  - b. The attribute departmentID is the foreign key relation to Department
  - c. The attribute roomID is the foreign key relation to Room
  - d. The attribute reportID is the foreign key relation to Report
8. Ward boy
  - a. The attribute ESSN is the foreign key to relation Employee
  - b. The attribute departmentID is the foreign key relation to Department
  - c. The attribute roomID is the foreign key relation to Room
  - d. The attribute reportID is the foreign key relation to Report
9. Patient
  - a. The patientID is the primary key to Patient
  - b. The roomID is the foreign key to relation Room
  - c. The attribute reportID is the foreign key relation to Report
  - d. The attribute conditionID is the foreign key relation to Condition
  - e. The attribute appointmentID is the foreign key relation to Appointment
10. Billing Specialist
  - a. The attribute ESSN is the foreign key to the relation Employee
11. Condition
  - a. The attribute conditionID is the primary key to Condition
12. Appointment
  - a. The attribute appointmentID is the primary key to relation Appointment
13. Room
  - a. The roomID is the primary key to Room
  - b. The departmentID is the foreign key to the relation Department
14. Department
  - a. The departmentID is the primary key to Department
15. Report
  - a. The reportID is a primary key for Report
  - b. The medicineID is the foreign key to Medicine
16. Medicine
  - a. The medicineID is a primary key for Medicine
  - b. The reportID is the foreign key to the relation Report

**Business Rules:**

1. Each room has only one patient
2. A doctor can only work in one department
3. A nurse can only work in one department
4. A billing specialist can only work in one department

5. A receptionist can only work in one department
6. An administrator can only work in one department
7. A record keeper can only work in one department
8. A ward boy can only work in one department
9. Patients can be treated by multiple departments
10. Patients can have multiple appointments
11. Patients can have multiple reports
12. Each employee can have only one role
13. Each employee can only work in one hospital
14. Each department can have multiple employees
15. Each hospital can have multiple employees
16. Each hospital can have multiple rooms
17. Each hospital can have multiple patients

## **Interface requirements:**

1. User can login to the system
2. User can log out of the system
3. Nurses can view reports
4. Doctors can view/edit reports
5. Ward Boys can view reports
6. Lab Assistant can view/edit reports
7. Lab Assistant can generate reports
8. Billing specialist can view/edit billing info
9. Receptionist can view/edit appointments
10. Receptionist can create appointments
11. Patient can view/edit patient information
12. Patient can view/edit billing info
13. Patient can view their lab reports
14. Patient can view their appointment
15. Doctors can view/edit patient information
16. Lab Assistant can view patient information
17. Nurses can view/edit patient information
18. Ward boys can view/edit patient information
19. Receptionist can check in patients
20. Receptionist can check out patients
21. Receptionist can assign patients to roomIDs
22. Receptionist can assign employees to patientIDs
23. Access control set by administrator
24. Record keepers can update metadata
25. Record keepers can view metadata
26. Administrators can update metadata
27. Administrators can delete metadata
28. Administrators can view metadata

- 29. Administrators can assign employees to departmentIDs
- 30. Administrators can create departmentIDs
- 31. Administrator can assign rooms to departmentIDs
- 32. Administrator can delete accounts
- 33. Administrator can create accounts