

OOPD ASSIGNMENT - 1

1. Identified Entities(Classes):

- Hospital
- Department
- Staff
- Person
- Doctor
- Nurse
- ClinicalAssistant
- Patient
- Lab
- Ward
- Pharmacy

2. Identified Classes Properties and Hierarchy:

- Hospital
 - + name -->String
 - + address -->String
 - + contactNumber --> String
 - + getDetails()
- Department
 - + deptId -->String
 - + deptName -->String
 - + deptLocation --> String
 - + doctors --> int
 - + nurses --> int
 - + labTechnicians -->int
 - + nonTechnicalStaff --> int
 - + getDetails()
- Staff extends Department
 - + staffId --> String
 - + staffDept --> String
 - + category --> String
 - + department --> String
 - getDetails()
- Person
 - + firstName
 - + lastName
 - + gender
 - dateOfBirth
 - + bloodGrp
 - + address
 - salary
 - contact
 - + getData()

- Doctor extends Person
 - + speciality
 - + availability
 - + experience
 - + deptName
 - + successRate
 - getDetails()
- Nurse extends Department
 - + availability
 - + experience
 - + deptName
 - getDetails()
- ClinicalAssistant extends Person
 - + deptName
 - + availability
 - + experience
 - + getDetails()
- Patient extends Person
 - + patientId
 - + illness
 - + assignedDoctor
 - medication
 - bill
 - + getDetails()
- Lab extends Department
 - + labDept
 - + equipment
 - + technicians
 - + getDetails()
- Ward
 - + capacity
 - + filledRooms
 - + vacantRooms
 - + getDetails()
- Pharmacy extends Department
 - + medicines
 - + checkMedicines()
 - + orderMedicines()
 - + getPatientsbills(patientId)

3. **Relationships between Entities:**

- clinical assistant assists doctors --> one to many
- patient go to hospital --> many to many relationship
- patient consults doctor --> many to one relationship
- doctor prescribes medicines to patient -->
- labs tests patient illness --> one to many relationship
- pharmacists gives medicines to patient --> one to many
- nurse takes care of patients --> one to many
- Hospital has wards --> many wards in hospital
- staff in hospital --> many to one
- patients admits in ward --> many to one
- many departments are in hospital.

Notation: +,- to class members is access specifier.

4,5 . UML Diagram

