**National University of Computer & Emerging Sciences**

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**SDA ASSIGNMENT DOMAIN MODEL AND CODE GENERATION**

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**Domain Model**

The scenario is about Hospital Management System which will be the system for this case. The system manages several different things for multiple actors such as Teams, wards, patients, doctors, special doctors and many more. The hospital has Name and Address value associated with it is composed of teams. There are many teams in a single hospital.

Hospital also has wards and are composed of them. Each ward has several beds and each ward has a name, stores the gender of the patient, and stores the capacity depending upon the number of beds it has and this is a distinct number. There may be many wards in the hospital, but the hospital has at least one ward otherwise it won’t be able to admit patients.

There are multiple teams in the hospital. Each team has its unique name or code like Doctor’s team, Admin team, Psychologist’s team, Physiotherapist’s team, or team of regular staff. Each team has its own number of employees. Mainly there is a team of Doctors, Consultant or specialized doctor or attending physician who supervises the team. A team also attends the patient at preferred timings. Each team can visit multiple patients, and there maybe more than one team that is led by consultant doctor. There can be many doctors belonging to one more team but each team has at least zero or more doctor to treat the patient.

The team is composed of doctors. Doctors may have various specialties amongst them. Each doctor can have more than one specialty, and each doctor can go to multiple locations (wards, different departments, emergency room, and consultancy rooms). There can exist multiple doctors in a single team.

Each team is headed by consultant or attending physician who has completed all of his or her specialist training, residency and practices medicine in clinic or hospital in the specialty learned during residency. Consultants can supervise fellows, residents, medical students and also can attend patients. Each consultant doctor can lead more than one teams.

There is also a junior doctor that’s a special version of doctor whose name is derived from the doctor’s class. Junior doctor is considered to be in his/her residency year and he can also see the patient.

At last, there’s a patient class who comes to the hospital, patient has id, gender, age (derived from date of birth), accepted status, sickness attribute and the information about prescribed medicine in his data. There can be multiple patients in the single ward. And patients will be checked by either consultant doctor, junior doctor, or different teams.

**Relations Identified:**

* Hospital is composed of teams
* Teams are composed of doctors
* Hospital is composed of wards
* Consultant doctor specializes doctor
* Junior doctor specializes doctor
* Consultant doctor leads the team
* Consultant doctor also sees the patient
* Doctor treats the patients
* Ward has patients