M.E.D.U.S.A.

(Medical Data Utilized for Systemic Archives)

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This database management system organizes the records of a hospital. The hospital uses this system in order to keep its data organized.

Entity Sets:

1. The hospital consists of multiple departments. Each department has a name, several employees, and a manager that oversees the department.
2. Each employee in the hospital has detailed information about them in the system. They are given a work id which helps to keep the data organized. Alongside the id, the name, age, sex, position, work hours, and salary of each employee is kept in the database management system.
3. Patients have their name, sex, age, and their guardian's or emergency contact's phone number stored within the system. In addition to this information, a medical report about each visit is stored as a separate entity set.
4. Information in the medical record includes employees who treat the patients, the types of treatments they used, the date of the visit, and the prescribed medication.
5. Patients may have insurance policies that help them cover the expenses of the medical procedures. If the patient has an insurance policy, the name of the insurance company and the benefits they provide to the patient are stored. In the case of a patient having no current insurance policy, all the previously mentioned data points are left empty.
6. Students from various universities are working as interns in order to gain work experience in the hospital. The interns are assigned a temporary work id. Along with their work id, their name, sex, salary, work hours, and the university they came from is included in their record in the database management system.

7. Hospitals have many necessities that keep the health service uninterrupted. The suppliers and the details of the supplies they provide to the hospital are kept in the database management system. The unit price, quantity, type of the supplies, and the date of the supplies arrived at the hospital are all included.

Relationship Sets:
1. The relationship between departments and employees: Each department should have at least one employee, and an employee can work in multiple departments. Employees need to be in at least one department. The department head is considered an employee, and their information is kept in the system much like anyone else.
2. The relationship between patients and employees: The employees treat patients, and they can treat more than one patient, but the patient cannot visit multiple doctors in one visit. Each employee does not need to treat a patient as they might be non-medical staff; however, a patient must be treated by an employee.
3. The relationship between patients, employees, and medical reports: Each doctor visit is kept as a separate entity named medical reports.
4. The relationship between patients and insurance companies: Insurance companies cover the expenses of patients. Patients can use one or no insurance policy per visit. The same company can provide benefits to many patients.
5. The relationship between interns and employees: All interns must have one mentor. Employees do not have any restrictions on how many interns they can have under their tutelage.
6. The relationship between departments and suppliers: Each department can have more than one supplier, and each supplier can provide to more than one department. Each department has to have at least one supplier.