به نام خدا

تمرین اول

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سوال 5:

- کوئری‌های جدول‌ها:

```sql
CREATE TABLE Doctors (

    national_code VARCHAR(20) PRIMARY KEY,

    name VARCHAR(100),

    specialty VARCHAR(100),

    contact_number VARCHAR(20)

);

CREATE TABLE Patients (

    national_code VARCHAR(20) PRIMARY KEY,

    name VARCHAR(100),

    contact_number VARCHAR(20)

);

CREATE TABLE PatientDiseases (

    patient_national_code VARCHAR(20),

    disease_name VARCHAR(100),

    PRIMARY KEY (patient_national_code, disease_name),

    FOREIGN KEY (patient_national_code) REFERENCES Patients(national_code)

);

CREATE TABLE Examinations (

    patient_national_code VARCHAR(20),

    doctor_national_code VARCHAR(20),

    disease VARCHAR(100),

    PRIMARY KEY (patient_national_code, doctor_national_code, disease),

    FOREIGN KEY (patient_national_code) REFERENCES Patients(national_code),

    FOREIGN KEY (doctor_national_code) REFERENCES Doctors(national_code)

);
```

```
CREATE ROLE NormalUser;

CREATE ROLE Nurse;

CREATE ROLE Physician;

CREATE ROLE SysAdmin;


CREATE USER normal_user WITH PASSWORD 'password';

CREATE USER nurse_user WITH PASSWORD 'password';

CREATE USER physician_user WITH PASSWORD 'password';

CREATE USER sysadmin_user WITH PASSWORD 'password';

GRANT NormalUser TO normal_user;

GRANT Nurse TO nurse_user;

GRANT Physician TO physician_user;

GRANT SysAdmin TO sysadmin_user;

REVOKE ALL ON TABLE Doctors FROM PUBLIC;

REVOKE ALL ON TABLE Patients FROM PUBLIC;

REVOKE ALL ON TABLE PatientDiseases FROM PUBLIC;

REVOKE ALL ON TABLE Examinations FROM PUBLIC;

GRANT SELECT (name, specialty) ON Doctors TO NormalUser;

GRANT SELECT, UPDATE ON Patients TO Physician;

GRANT SELECT, UPDATE ON PatientDiseases TO Physician;

GRANT SELECT, INSERT, UPDATE, DELETE ON Patients TO Nurse;

GRANT SELECT, INSERT, UPDATE, DELETE ON PatientDiseases TO Nurse;

GRANT SELECT, INSERT, UPDATE, DELETE ON Examinations TO Nurse;

GRANT SELECT ON Doctors TO Nurse;

GRANT ALL PRIVILEGES ON Doctors TO SysAdmin;

GRANT ALL PRIVILEGES ON Patients TO SysAdmin;

GRANT ALL PRIVILEGES ON PatientDiseases TO SysAdmin;

GRANT ALL PRIVILEGES ON Examinations TO SysAdmin;
```

```
-- normal_user;
-- success
SELECT name, specialty FROM Doctors;
-- fail
SELECT * FROM Doctors;



-- physician_user;
-- success
SELECT * FROM Patients;
UPDATE Patients SET contact_number = '9876543210' WHERE national_code = 'P456';
-- fail
INSERT INTO Patients (national_code, name, contact_number) VALUES ('P789', 'Alice Brown',
'1122334455');
DELETE FROM Patients WHERE national_code = 'P456';



-- nurse_user;
-- success
INSERT INTO Patients (national_code, name, contact_number) VALUES ('P789', 'Alice Brown',
'1122334455');
DELETE FROM Patients WHERE national_code = 'P789';
-- fail
SELECT * FROM Doctors;
UPDATE Doctors SET contact_number = '09123334444' WHERE national_code = 'D555';



-- sysadmin_user;
-- success
SELECT * FROM Doctors;
INSERT INTO Doctors (national_code, name, specialty, contact_number) VALUES ('D888', 'Dr.
Williams', 'Neurology', '6677889900');
-- no fail
```