### Django Assignment: Building a Healthcare Backend

### **Objective:**

The goal of this assignment is to create a backend system for a healthcare application using Django, Django REST Framework (DRF), and PostgreSQL. The system should allow users to register, log in, and manage patient and doctor records securely.

#### Requirements:

- Use **Django** and **Django REST Framework (DRF)** for the backend.
- Use **PostgreSQL** as the database.
- Implement JWT authentication for user security using djangorestframework-simplejwt.
- Create RESTful API endpoints for managing patients and doctors.
- Use Django ORM for database modeling.
- Implement error handling and validation.
- Use **environment variables** for sensitive configurations.

## **APIs to be Implemented:**

#### 1. Authentication APIs

- POST /api/auth/register/ Register a new user with name, email, and password.
- **POST** /api/auth/login/ Log in a user and return a JWT token.

### 2. Patient Management APIs

- POST /api/patients/ Add a new patient (Authenticated users only).
- **GET** /api/patients/ Retrieve all patients created by the authenticated user.
- **GET** /api/patients/<id>/ Get details of a specific patient.
- PUT /api/patients/<id>/ Update patient details.
- **DELETE** /api/patients/<id>/ Delete a patient record.

### 3. Doctor Management APIs

- **POST** /api/doctors/ Add a new doctor (Authenticated users only).
- GET /api/doctors/ Retrieve all doctors.
- **GET** /api/doctors/<id>/ Get details of a specific doctor.
- **PUT** /api/doctors/<id>/ Update doctor details.
- **DELETE** /api/doctors/<id>/ Delete a doctor record.

#### 4. Patient-Doctor Mapping APIs

- **POST** /api/mappings/ Assign a doctor to a patient.
- **GET** /api/mappings/ Retrieve all patient-doctor mappings.
- **GET** /api/mappings/<patient\_id>/ Get all doctors assigned to a specific patient.
- **DELETE** /api/mappings/<id>/ Remove a doctor from a patient.

#### Instructions:

- 1. Set up a Django project with Django REST Framework and PostgreSQL.
- 2. Use Django ORM for database interaction.
- 3. Implement authentication using JWT with djangorestframework-simplejwt.
- 4. Secure patient and doctor-related endpoints with authentication permissions.
- 5. Follow best practices for structuring the project.
- 6. Test all API endpoints using Postman or an API client.

# **Expected Outcome:**

- Users should be able to register and log in.
- Authenticated users should be able to add and manage patient and doctor records.
- Patients should be able to be assigned to doctors.
- Data should be stored securely in PostgreSQL.

Good luck! 🚀