Python/Django Technical Taks

Objective:
Create a Django backend for handling user authentication (both standard and Google OAuth), managing user data in a PostgreSQL database, and creating RESTful endpoints.

Requirements:

1. Set Up Django Project:
   - Set up a new Django project with the following specifications:
     - Use Python 3.10+ and Django 4.x+.
     - Install required dependencies:
       pip install django djangorestframework psycopg2 django-rest-framework-simplejwt social-auth-app-django

2. Authentication Setup:
   - Implement standard authentication (username, password).
   - Implement Google OAuth2 authentication using social-auth-app-django.
   - Ensure that the authentication system stores user details in the PostgreSQL database.
   - Use JWT tokens for authenticated requests.

3. Database Integration:
   - Use PostgreSQL for user data storage.
   - Create a user model that can store the following fields:
     - username
     - email
     - password
     - is_active
     - date_joined
   - Ensure proper migrations for the database setup.

4. Endpoints:
   - User Registration Endpoint:
     - Allow users to register with a username, email, and password.
     - Return JWT tokens upon successful registration.

   - Login Endpoint:

- Allow users to login with their username/email and password.
- Return JWT tokens upon successful login.

- Google Login Endpoint:
  - Allow users to authenticate via Google OAuth2.
  - Return JWT tokens upon successful authentication.

- User Profile Endpoint:
  - Protect this endpoint with token authentication.
  - Allow users to view and update their profile information (username, email).

5. Testing and Documentation:
   - Write unit tests for the authentication system and endpoints.
   - Document the API endpoints with Postman or Swagger.

6. Deployment:
   - Provide instructions for deploying the backend to a cloud server (e.g., Heroku, AWS).

Deliverables:
1. Django project repository (GitHub/Bitbucket).
2. API documentation.
3. Unit test results.

Instructions for Submission:
1. Fork the GitHub repository and clone it to your local machine.
2. Implement the features as outlined in the requirements.
3. Push the code to your GitHub repository.
4. Provide the API documentation in either Postman or Swagger format, describing each endpoint.
5. Write unit tests for all authentication functionalities and endpoints.
6. Deploy the project to a cloud service (Heroku, AWS, or any other) and provide deployment instructions.
7. Send a link to your GitHub repository, along with the deployed application URL (if applicable) to the given email.