Shift Roster Generation Report

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Overview

This project is designed to generate a weekly shift roster for a company operating 24/7. The shifts are divided into three types: Day Shift, Evening Shift, and Night Shift. The FastAPI application accepts employee data, including their shift preferences, and generates a shift schedule that adheres to the following rules:

- Employees work 5 days a week with 2 consecutive days off.
- Night shifts are rotated fairly, with no employee working more than 3-night shifts per week.
- Employee preferences for shift types are considered in the scheduling process.

GitHub - https://github.com/VanujaSooriyaarachchi/Shift-Roster-Generation

Main Components

1. API Endpoint
2. Models –
   - ShiftType
   - Employee
   - RosterRequest
   - Shift
3. Shift Generation Logic

Files

- **main.py**: Contains the FastAPI application, including the endpoint definitions and shift generation logic.
- **schemas.py**: Defines the Pydantic models for request and response validation.
- **requirements.txt**: Lists the dependencies needed to run the application (FastAPI, Uvicorn, Pydantic).

Install dependencies: pip install -r requirements.txt

Run the application: uvicorn main:app --host 0.0.0.0 --port 8000