Advanced Programming (Java)

Diagrams & Entity Relationships

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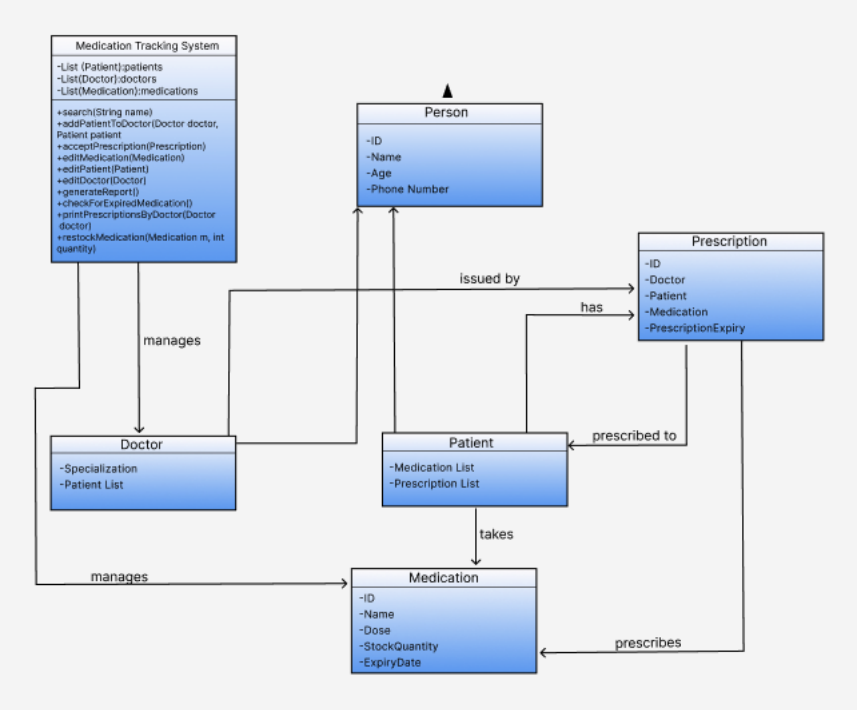

1. **Person (Superclass) → Doctor & Patient (Subclasses)**

- **Relationship**: The Person entity acts as a parent class, meaning both Doctor and Patient inherit its attributes (ID, Name, Age, Phone number).

2. **Doctor → Patient (One-to-Many)**

- **Relationship**: A Doctor can have multiple Patients, but each Patient is managed by a single Doctor.

3. **Doctor → Prescription (One-to-Many)**

- **Relationship**: A Doctor issues multiple Prescriptions, but each Prescription is assigned to only one Doctor.

4. **Patient → Prescription (One-to-Many)**

- **Relationship**: A Patient can have multiple Prescriptions, but each Prescription is for a single Patient.

5. **Prescription → Medication (Many-to-One)**

- **Relationship**: Each Prescription includes exactly one Medication, but the same Medication can be prescribed multiple times.

6. **Medication → Patient (Many-to-Many)**

- **Relationship**: A Patient can take multiple Medications, and each Medication can be taken by multiple Patients.

7. **Doctor → Medication (One-to-Many, indirect via Prescription)**

- **Relationship**: A Doctor prescribes medications to Patients through Prescriptions.