User Documentation

This application is for a pharmacy system to manage patient drugs and information.

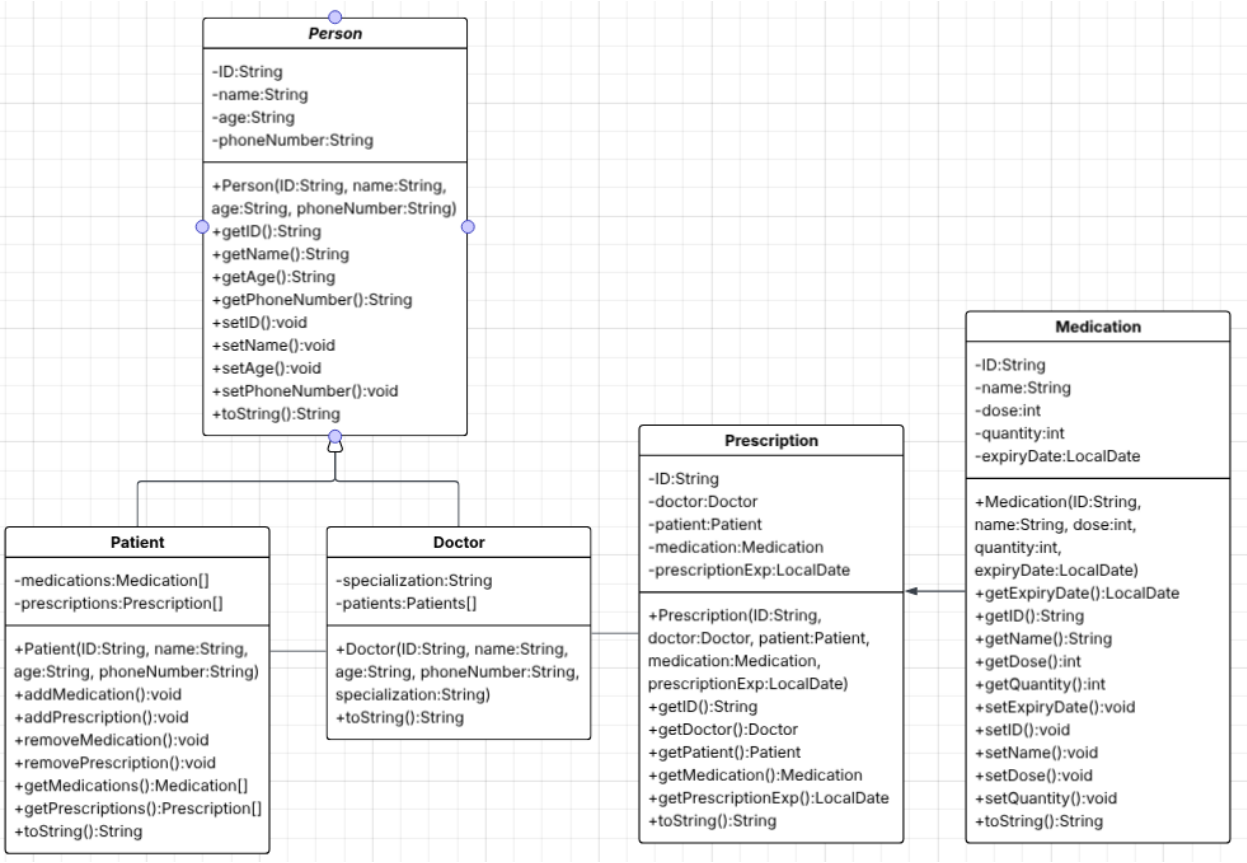
It consists of 6 classes:

1) Person (Super) class.
    - This class serves as the basis for the following Doctor and Patient classes by taking in Name, Age, and Phone number.
2) Patient class.
    - Takes information from Person class as well as medications they are taking, as well as prescriptions.
3) Doctor class.
    - Takes information from Person class, while also giving their specialization and a list of all their patients.
4) Medication class.
    - It has a unique ID for each medication, the name of the medication, the dosage, quantity in stock, and the expiration date.
5) Prescription class.
    - Stores a unique ID for the prescription, the doctor that prescribed it, the patient it has been prescribed to, the medication that was prescribed, and the expiry date of the prescription.
6) Medication System class.
    - This class manages the entire system by containing the list of patients, medications, and doctors. It provides the following functionality:
        i. Search for drugs, patients, and doctors by name and display relevant details for each.
        ii. Add a patient to a doctor's list.
        iii. Accepting prescriptions, linking them to a patient.
        iv. The ability to edit and delete medications, patients, and doctors.
        v. Report generation that contains all system data.
        vi. Check for expired medications.
        vii. Printing a list of all prescriptions issued by a specific doctor.
        viii. Restocking drugs in the pharmacy.

How to start/access:

1. Open the project in VS Code or any Java IDE.
2. Run the Demo.java file.
3. The main menu will appear, allowing you to:
   - Add, edit, and remove patients, doctors, and medications
   - Accept prescriptions
   - Search for records or view reports
4. Type the menu letter corresponding to the action you want to perform.

UML Class diagram w/ associations.



Development Documentation

Javadocs are integrated into the files.

Source Code directory structure:

The directory structure is quite simple; all of the project files are located under the *Kevin-Spencer-Java-MidtermSprint* folder.

/Kevin-Spencer-Java-MidtermSprint/

```
│
 ├── Demo.java              → Main class that runs the system and contains the menu
 ├── MedicationSystem.java  → Core system class that manages all data and logic
 ├── Person.java            → Abstract superclass for Doctor and Patient
 ├── Doctor.java            → Subclass of Person representing a doctor
 ├── Patient.java           → Subclass of Person representing a patient
 ├── Medication.java        → Represents a medication in the pharmacy
 ├── Prescription.java      → Represents a prescription issued by a doctor
 │
 └── /Documentation
     └── Midterm_sprint_documentation.pdf  → Contains User and Development
Documentation
```

How to compile the project & compiler time dependencies:

The project only uses standard Java libraries; no external dependencies are required.

How to Compile:

1. Ensure you have Java JDK 21 or newer installed.
2. Open a terminal in the project directory.
3. Compile all Java files using:
   javac *.java
4. Then run the application using:
   java Demo

Development Standards:

All class names follow PascalCase (eg. *MedicationSystem*, *Doctor*, *Prescription*).

Variables and methods use camelCase (eg *addPatient*, *checkMedicationExp*).

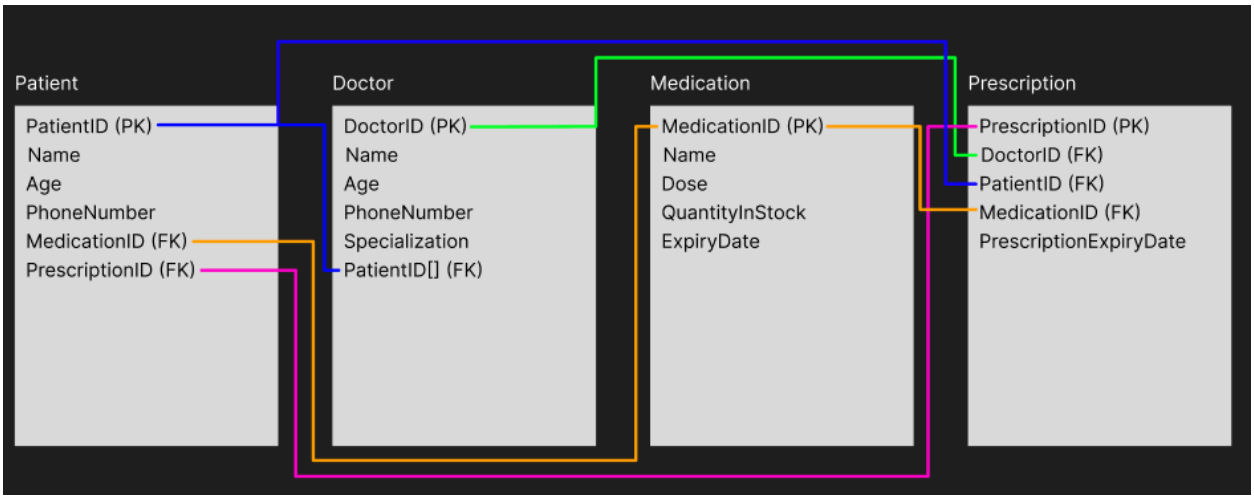
Each class has access modifiers (private for fields, public for methods).

Code follows OOP principles:

- **Encapsulation:** All fields are private and accessed by getters/setters.
- **Inheritance:** *Doctor* and *Patient* inherit from *Person*.
- **Abstraction:** *Person* is abstract and not instansiated directly.

Every class includes proper Javadoc comments for methods and fields.

Mock database with relationships



How to get the source code from GitHub:

To clone the code locally, simply run the following command in the terminal.

git clone https://github.com/Green2882/Kevin-Spencer-Java-MidtermSprint.git