UML DESCRIPTION

In the UML diagram for a pharmacy management system, we have several classes with different types of relationships, including inheritance, association and composition. Here's the explanation for each:

1. **User (Abstract Class)**:
    - **Description:** This is an abstract base class for **Staff** and **Admin**. It contains common attributes such as UserID, Name, and ContactInfo.
2. **Inheritance Relationships**:
    - **User to Staff/Admin:**
        - **Type:** Inheritance
        - **Description:** Both Staff and Admin are specialized types of Users, inheriting common attributes. This allows for shared characteristics while enabling distinct responsibilities.
3. **Association Relationships**:
    - **Admin to Role:**
        - **Type:** Association
        - **Description:** Admins are responsible for assigning and managing roles within the pharmacy system. One admin can manage multiple roles.
    - **Role to Permission:**
        - **Type:** Association
        - **Description:** Each role has associated permissions that dictate what the bearer of the role is allowed to do within the system. A single role can have multiple permissions.
    - **Permission to Staff/Admin:**
        - **Type:** Association
        - **Description:** Permissions grant certain capabilities or access rights to Staff and Admin. Each permission can be applied to multiple staff or admin members.
    - **Supplier to Medicine/Equipment:**
        - **Type:** Association
        - **Description:** Suppliers provide medicines and equipment needed by the pharmacy. A single supplier can provide various medicines and pieces of equipment.
    - **Staff to Prescription:**
        - **Type:** Association
        - **Description:** Staff members are responsible for prescribing and dispensing medications. They interact with multiple prescriptions, each prescribing and dispensing medicines.
4. **Composition Relationships**:
    - **Medicine to Prescription:**
        - **Type:** Composition

        - **Description:** A prescription contains medicines. This is a strong form of association where the prescription is composed of medicines and is existentially dependent on them. If the prescription ceases to exist, so does its association with the medicine.
    - **Equipment to EquipmentLoan:**
        - **Type:** Composition
        - **Description:** EquipmentLoan is a part of Equipment and cannot exist without it. This represents that each piece of equipment might have none or multiple loans attached to it, and the loans are existentially dependent on the equipment.