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CREATE TABLE Schedules (
    ScheduleID INTEGER PRIMARY KEY NOT NULL,
    MondayStart INTEGER NOT NULL,
    MondayEnd INTEGER NOT NULL,
    TuesdayStart INTEGER NOT NULL,
    TuesdayEnd INTEGER NOT NULL,
    WednesdayStart INTEGER NOT NULL,
    WednesdayEnd INTEGER NOT NULL,
    ThursdayStart INTEGER NOT NULL,
    ThursdayEnd INTEGER NOT NULL,
    FridayStart INTEGER NOT NULL,
    FridayEnd INTEGER NOT NULL,
    SaturdayStart INTEGER NOT NULL,
    SaturdayEnd INTEGER NOT NULL,
    SundayStart INTEGER NOT NULL,
    SundayEnd INTEGER NOT NULL
);

CREATE TABLE Employees (
    EmployeeID INTEGER PRIMARY KEY NOT NULL,
    GivenName VARCHAR(64) NOT NULL,
    Surname VARCHAR(64) NOT NULL,
    Position VARCHAR(128) NOT NULL,
    Schedule INTEGER NOT NULL,

    CONSTRAINT employee_has_schedule
    FOREIGN KEY (Schedule) REFERENCES Schedules(ScheduleID)
);

CREATE TABLE Rooms (
    RoomID INTEGER PRIMARY KEY NOT NULL,
    RoomINTEGER VARCHAR(16) NOT NULL,
    Description VARCHAR(64) NOT NULL
);

CREATE TABLE Permissions (
    PermissionID INTEGER PRIMARY KEY NOT NULL,
    Expires DATE NOT NULL,
    Employee INTEGER NOT NULL,
    Room INTEGER NOT NULL,

    CONSTRAINT permission_employee
    FOREIGN KEY (Employee) REFERENCES Employees(EmployeeID)
    ON DELETE CASCADE,

    CONSTRAINT permission_room
    FOREIGN KEY (Room) REFERENCES Rooms(RoomID)
    ON DELETE CASCADE
);

CREATE TABLE Gates (
    GateID INTEGER PRIMARY KEY NOT NULL,
    Location VARCHAR(64) NOT NULL,
    RoomA INTEGER NOT NULL,
    RoomB INTEGER NOT NULL,

    CONSTRAINT gate_room_a
    FOREIGN KEY (RoomA) REFERENCES Rooms(RoomID)
    ON DELETE CASCADE,
    CONSTRAINT gate_room_b
    FOREIGN KEY (RoomB) REFERENCES Rooms(RoomID)
    ON DELETE CASCADE,

    CONSTRAINT gate_room_order CHECK (RoomA < RoomB)
);

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);
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CREATE TABLE Actions (  
    ActionID INTEGER PRIMARY KEY NOT NULL,  
    ActionType INTEGER NOT NULL,  
    ActionDate DATE NOT NULL,  
    Employee INTEGER NOT NULL,  
    Room INTEGER NOT NULL,  
    Gate INTEGER NOT NULL,  
  
    CONSTRAINT action_employee  
    FOREIGN KEY (Employee) REFERENCES Employees (EmployeeID),  
    CONSTRAINT action_room  
    FOREIGN KEY (Room) REFERENCES Rooms (RoomID),  
    CONSTRAINT action_gate  
    FOREIGN KEY (Gate) REFERENCES Gates (GateID),  
  
    CONSTRAINT a_type_in_range CHECK (ActionType BETWEEN 0 AND 2)  
);
```

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CREATE TABLE Violations (  
    ViolationID INTEGER PRIMARY KEY NOT NULL,  
    ViolationType INTEGER NOT NULL,  
    ViolationDate DATE NOT NULL,  
    Employee INTEGER NOT NULL,  
    Room INTEGER,  
    Gate INTEGER,  
  
    CONSTRAINT violation_employee  
    FOREIGN KEY (Employee) REFERENCES Employees (EmployeeID),  
    CONSTRAINT violation_room  
    FOREIGN KEY (Room) REFERENCES Rooms (RoomID),  
    CONSTRAINT violation_gate  
    FOREIGN KEY (Gate) REFERENCES Gates (GateID),  
  
    CONSTRAINT v_type_in_range CHECK (ViolationType BETWEEN 0 AND 3)  
);
```