# Group Members Name

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# Hospital Management system

import java.util.\*;  
  
class Appointment {  
 String patientName;  
 String timeSlot;  
 boolean isUrgent;  
  
 public Appointment(String patientName, String timeSlot, boolean isUrgent) {  
 this.patientName = patientName;  
 this.timeSlot = timeSlot;  
 this.isUrgent = isUrgent;  
 }  
  
 @Override  
 public String toString() {  
 return "Patient: " + patientName + ", Time: " + timeSlot + (isUrgent ? " (Urgent)" : "");  
 }  
}  
  
class Doctor {  
 String name;  
 LinkedList<Appointment> schedule;  
  
 public Doctor(String name) {  
 this.name = name;  
 this.schedule = new LinkedList<>();  
 }  
  
 public void addAppointment(Appointment appointment) {  
 schedule.add(appointment);  
 }  
  
 public void showSchedule() {  
 System.*out*.println("Schedule for Dr. " + name + ":");  
 for (Appointment appointment : schedule) {  
 System.*out*.println(appointment);  
 }  
 }  
}  
  
class AppointmentSystem {  
 List<Doctor> doctors;  
 PriorityQueue<Appointment> appointmentQueue;  
  
 public AppointmentSystem() {  
 doctors = new ArrayList<>();  
 appointmentQueue = new PriorityQueue<>(  
 (a1, a2) -> Boolean.*compare*(a2.isUrgent, a1.isUrgent) // Urgent appointments first  
 );  
 }  
  
 public void addDoctor(String doctorName) {  
 doctors.add(new Doctor(doctorName));  
 }  
  
 public Doctor findDoctor(String doctorName) {  
 for (Doctor doctor : doctors) {  
 if (doctor.name.equals(doctorName)) {  
 return doctor;  
 }  
 }  
 return null;  
 }  
  
 public void bookAppointment(String doctorName, String patientName, String timeSlot, boolean isUrgent) {  
 Doctor doctor = findDoctor(doctorName);  
 if (doctor == null) {  
 System.*out*.println("Doctor not found!");  
 return;  
 }  
  
 Appointment appointment = new Appointment(patientName, timeSlot, isUrgent);  
 appointmentQueue.add(appointment);  
  
 while (!appointmentQueue.isEmpty()) {  
 Appointment nextAppointment = appointmentQueue.poll();  
 doctor.addAppointment(nextAppointment);  
 }  
 }  
  
 public void showDoctorSchedule(String doctorName) {  
 Doctor doctor = findDoctor(doctorName);  
 if (doctor != null) {  
 doctor.showSchedule();  
 } else {  
 System.*out*.println("Doctor not found!");  
 }  
 }  
}  
  
public class DoctorManagementSystem {  
 public static void main(String[] args) {  
 Scanner scanner = new Scanner(System.*in*);  
 AppointmentSystem system = new AppointmentSystem();  
  
 // Add doctors  
 system.addDoctor("Dr. Smith");  
 system.addDoctor("Dr. Johnson");  
  
 System.*out*.println("Welcome to the Doctor Management System!");  
  
 while (true) {  
 System.*out*.println("\n1. Book an Appointment");  
 System.*out*.println("2. View Doctor's Schedule");  
 System.*out*.println("3. Exit");  
 System.*out*.print("Enter your choice: ");  
 int choice = scanner.nextInt();  
 scanner.nextLine(); // Consume newline left-over  
  
 if (choice == 1) {  
 // Book an appointment  
 System.*out*.print("Enter Doctor's name: ");  
 String doctorName = scanner.nextLine();  
  
 System.*out*.print("Enter Patient's name: ");  
 String patientName = scanner.nextLine();  
  
 System.*out*.print("Enter Time Slot: ");  
 String timeSlot = scanner.nextLine();  
  
 System.*out*.print("Is the appointment urgent (true/false): ");  
 boolean isUrgent = scanner.nextBoolean();  
 scanner.nextLine(); // Consume newline left-over  
  
 system.bookAppointment(doctorName, patientName, timeSlot, isUrgent);  
 System.*out*.println("Appointment booked successfully!");  
 } else if (choice == 2) {  
 // Show schedule  
 System.*out*.print("Enter Doctor's name to view their schedule: ");  
 String doctorName = scanner.nextLine();  
  
 system.showDoctorSchedule(doctorName);  
 } else if (choice == 3) {  
 // Exit the program  
 System.*out*.println("Thank you for using the Doctor Management System.");  
 break;  
 } else {  
 System.*out*.println("Invalid choice. Please try again.");  
 }  
 }  
  
 scanner.close();  
 }  
}

Output:



