

HOSPITAL MANAGEMENT SYSTEM

CODE:

```
from dao.hospital_service_impl import HospitalServiceImpl
from exception.patient_not_found_exception import PatientNumberNotFoundException
from entity.appointment import Appointment
```

```
USERS = {
    "admin": {"password": "admin123", "role": "Admin"},
    "doctor1": {"password": "doc123", "role": "Doctor"},
    "patient1": {"password": "pat123", "role": "Patient"},
}
```

```
def login():
    print("==== Hospital Management System Login =====")
    attempts = 3
    while attempts > 0:
        username = input("Username: ")
        password = input("Password: ")
        user = USERS.get(username)
        if user and user["password"] == password:
            print(f"\nLogin successful! Welcome {username} ({user['role']})")
            return user["role"]
        else:
            attempts -= 1
            print(f"Invalid credentials. Attempts remaining: {attempts}\n")
    return None
```

Main Function

```
def main():
```

```
    role = login()
```

```
    if not role:
```

```
        print("Too many failed login attempts. Exiting system.")
```

```
    return
```

```
service = HospitalServiceImpl()
```

```
while True:
```

```
    print("\n===== Hospital Management System =====")
```

```
    if role == "Admin":
```

```
        print("1. Get Appointment by ID")
```

```
        print("2. Get Appointments for Patient")
```

```
        print("3. Get Appointments for Doctor")
```

```
        print("4. Schedule Appointment")
```

```
        print("5. Update Appointment")
```

```
        print("6. Cancel Appointment")
```

```
        print("7. Exit")
```

```
    elif role == "Doctor":
```

```
        print("1. View Your Appointments")
```

```
        print("2. Exit")
```

```
    elif role == "Patient":
```

```
        print("1. View Your Appointments")
```

```
        print("2. Schedule Appointment")
```

```
        print("3. Exit")
```

```
choice = input("Enter your choice: ")

try:
    if role == "Admin":
        if choice == "1":
            appointment_id = int(input("Enter appointment ID: "))
            appt = service.get_appointment_by_id(appointment_id)
            print(appt if appt else "No appointment found.")
        elif choice == "2":
            patient_id = int(input("Enter patient ID: "))
            appts = service.get_appointments_for_patient(patient_id)
            if appts:
                for appt in appts:
                    print(appt)
            else:
                raise PatientNumberNotFoundException("Patient not found in database.")
        elif choice == "3":
            doctor_id = int(input("Enter doctor ID: "))
            appts = service.get_appointments_for_doctor(doctor_id)
            for appt in appts:
                print(appt)
        elif choice == "4":
            patient_id = int(input("Enter patient ID: "))
            doctor_id = int(input("Enter doctor ID: "))
            appointment_date = input("Enter appointment date (YYYY-MM-DD): ")
            description = input("Enter description: ")
            appointment = Appointment(None, patient_id, doctor_id, appointment_date,
description)
```

```
        print("Appointment scheduled." if service.schedule_appointment(appointment) else  
"Failed to schedule.")
```

```
    elif choice == "5":
```

```
        appointment_id = int(input("Enter appointment ID: "))
```

```
        patient_id = int(input("Enter updated patient ID: "))
```

```
        doctor_id = int(input("Enter updated doctor ID: "))
```

```
        appointment_date = input("Enter updated date (YYYY-MM-DD): ")
```

```
        description = input("Enter updated description: ")
```

```
        appointment = Appointment(appointment_id, patient_id, doctor_id,  
appointment_date, description)
```

```
        print("Appointment updated." if service.update_appointment(appointment) else  
"Update failed.")
```

```
    elif choice == "6":
```

```
        appointment_id = int(input("Enter appointment ID to cancel: "))
```

```
        print("Cancelled." if service.cancel_appointment(appointment_id) else "Cancel  
failed.")
```

```
    elif choice == "7":
```

```
        print("Logging out...")
```

```
        break
```

```
    else:
```

```
        print("Invalid choice.")
```

```
elif role == "Doctor":
```

```
    if choice == "1":
```

```
        doctor_id = int(input("Enter your doctor ID: "))
```

```
        appts = service.get_appointments_for_doctor(doctor_id)
```

```
        for appt in appts:
```

```
            print(appt)
```

```
    elif choice == "2":
```

```
        print("Logging out...")
```

```

        break

    else:

        print("Invalid choice.")

elif role == "Patient":

    if choice == "1":

        patient_id = int(input("Enter your patient ID: "))

        appts = service.get_appointments_for_patient(patient_id)

        for appt in appts:

            print(appt)

    elif choice == "2":

        patient_id = int(input("Enter your patient ID: "))

        doctor_id = int(input("Enter doctor ID: "))

        appointment_date = input("Enter appointment date (YYYY-MM-DD): ")

        description = input("Enter description: ")

        appointment = Appointment(None, patient_id, doctor_id, appointment_date,
description)

        print("Appointment scheduled." if service.schedule_appointment(appointment) else
"Failed to schedule.")

    elif choice == "3":

        print("Logging out...")

        break

    else:

        print("Invalid choice.")

except PatientNumberNotFoundException as e:

    print("Error:", e)

except Exception as e:

    print("Unexpected error:", e)

```

```
if __name__ == "__main__":
```

```
    main()
```

Admin Page:

```
===== Hospital Management System Login =====
```

```
Username: admin
```

```
Password: admin123
```

```
Login successful! Welcome admin (Admin)
```

```
===== Hospital Management System =====
```

```
1. Get Appointment by ID
```

```
2. Get Appointments for Patient
```

```
3. Get Appointments for Doctor
```

```
4. Schedule Appointment
```

```
5. Update Appointment
```

```
6. Cancel Appointment
```

```
7. Exit
```

```
Enter your choice: 1
```

```
Enter appointment ID: 102
```

```
Appointment [ID=102, PatientID=2, DoctorID=2, Date=2025-04-02, Description=Migraine issues]
```

```
Hospital Management System
1. Get Appointment by ID
2. Get Appointments for Patient
3. Get Appointments for Doctor
4. Schedule Appointment
5. Update Appointment
6. Cancel Appointment
7. Exit
Enter your choice: 2
Enter patient ID: 2
Appointment [ID=102, PatientID=2, DoctorID=2, Date=2025-04-02, Description=Migraine issues]

===== Hospital Management System =====
1. Get Appointment by ID
2. Get Appointments for Patient
3. Get Appointments for Doctor
4. Schedule Appointment
5. Update Appointment
6. Cancel Appointment
7. Exit
Enter your choice: 3
Enter doctor ID: 2
Appointment [ID=102, PatientID=2, DoctorID=2, Date=2025-04-02, Description=Migraine issues]
```

```
===== Hospital Management System =====
1. Get Appointment by ID
2. Get Appointments for Patient
3. Get Appointments for Doctor
4. Schedule Appointment
5. Update Appointment
6. Cancel Appointment
7. Exit
Enter your choice: 4
Enter patient ID: 2
Enter doctor ID: 2
Enter appointment date (YYYY-MM-DD): 2025-09-08
Enter description: migraine issues
Appointment scheduled.
```

```
===== Hospital Management System =====
1. Get Appointment by ID
2. Get Appointments for Patient
3. Get Appointments for Doctor
4. Schedule Appointment
5. Update Appointment
6. Cancel Appointment
7. Exit
Enter your choice: 5
Enter appointment ID: 102
Enter updated patient ID: 2
Enter updated doctor ID: 2
Enter updated date (YYYY-MM-DD): 2025-05-06
Enter updated description: fever
Appointment updated.
```

Patient Page:

```
Username: patient1
Password: pat123

Login successful! Welcome patient1 (Patient)

===== Hospital Management System =====
1. View Your Appointments
2. Schedule Appointment
3. Exit
Enter your choice: 1
Enter your patient ID: 2
Appointment [ID=102, PatientID=2, DoctorID=2, Date=2025-05-06, Description=fever]
Appointment [ID=111, PatientID=2, DoctorID=2, Date=2025-09-08, Description=migraine issues]
```

Doctor page:

==== Hospital Management System Login ====

Username: *doctor1*

Password: *doc123*

Login successful! Welcome doctor1 (Doctor)

==== Hospital Management System ====

1. View Your Appointments

2. Exit

Enter your choice: *1*

Enter your doctor ID: *2*

Appointment [ID=102, PatientID=2, DoctorID=2, Date=2025-05-06, Description=fever]

Appointment [ID=111, PatientID=2, DoctorID=2, Date=2025-09-08, Description=migraine issues]