1. Tests

1.1 Patient Actions

1.1.1 View Medical Records

After login in, patients can view their particulars and record through selecting the first option in the menu.

1.1.2 Update Personal Information

Patients can also change their contact information through the second selection in the menu. They are able to alter their email address and contact number.

```
Hello Alice Brown, welcome to the patient menu

1. View Medical Records

2. Update Personal Information
Hello Alice Brown, welcome to the patient menu

    View Medical Records
    Update Personal Information

2. Update Personal Information
3. View Available Appointment Slots
4. Schedule Appointment
5. Reschedule Appointment
6. Cancel Appointment
7. View Scheduled Appointments
8. View Past Appointment Records
                                                                                                        3. View Available Appointment Slots
4. Schedule Appointment
5. Reschedule Appointment
                                                                                                       6. Cancel Appointment
7. View Scheduled Appointments
8. View Past Appointment Records
9. Change Password
                                                                                                          . Change Password
10. Logout
                                                                                                        10. Logout
                                                                                                       Enter your choice: 2
Choose particular to change:
1. Email
2. Contact number
Enter your choice: 2
Choose particular to change:

1. Email

2. Contact number
Enter selection:
                                                                                                        Enter selection:
Enter new email:
                                                                                                        Enter new contact number:
Mail@mail.com
Email edited
                                                                                                        Contact number edited
```

The change is also reflected if patient choose to view their records.

```
Enter your choice: 1

Name : Alice Brown

DOB : 14 May 1980

Email : Mail@mail.com

Contact no. : 831279

Blood type : A+

Previous appointment outcomes:

~ No appointment outcomes found!
```

1.1.3 View Available Appointment

Patients can view the available appointment slot of their preferred doctor through the third menu. Upon selecting the doctor, available slots in the next 7 days are shown.

```
Hello Alice Brown, welcome to the patient menu
1. View Medical Records
                                                   Available slots:
2. Update Personal Information
3. View Available Appointment Slots
                                                   Mon, 18 Nov 2024:
                                                   1. 09:00
4. Schedule Appointment
                                                   2. 10:00
5. Reschedule Appointment
6. Cancel Appointment
7. View Scheduled Appointments
                                                   4. 12:00
8. View Past Appointment Records
                                                   5. 13:00
9. Change Password
                                                   6. 14:00
                                                   7. 15:00
10. Logout
                                                   Tue, 19 Nov 2024:
8. 09:00
______
Enter your choice: 3
Select Doctor:
                                                   9. 10:00
1. dr. John Smith
                                                   10. 11:00
2. dr. Emily Clarke
                                                   11. 12:00
  dr. James Bond
                                                   12. 13:00
Select doctor:
                                                   13. 14:00
```

1.1.4 Schedule an Appointment

Through the fourth menu, they are able to schedule an appointment by selecting their preferred doctor, date, and time. After this, the timeslot is marked as unavailable. Patients are also unable to book an appointment on an unavailable time slot.

```
Hello Alice Brown, welcome to the patient menu
1. View Medical Records
2. Update Personal Information
3. View Available Appointment Slots
4. Schedule Appointment
5. Reschedule Appointment
7. View Scheduled Appointment
8. View Past Appointment
9. Change Password
10. Logout
11. John Smith
12. dr. Emily Clarke
13. dr. James Bond
14. John Smith
15. dr. Tames Bond
16. Logout
17. View Scheduled Appointment
18. John Smith
19. dr. Emily Clarke
19. dr. Emily Clarke
19. dr. John Smith
10. dr. Emily Clarke
10. dr. John Smith
10. dr. Finity Clarke
11. Mon, 18 Nov 2024
10. Tue, 19 Nov 2024
11. Tue, 19 Nov 2024
12. Tue, 19 Nov 2024
13. Wed, 20 Nov 2024
14. Thu, 21 Nov 2024
15. Fri, 22 Nov 2024
16. Sat, 23 Nov 2024
17. Sun, 24 Nov 2024
18. Back
18. Back
19. Choose date:
```

```
Mon, 18 Nov 2024

1. 09:00 : Available

2. 10:00 : Available

3. 11:00 : Available

4. 12:00 : Available

5. 13:00 : Available

5. 13:00 : Available

6. 14:00 : Available

8. Back

Choose time:

2

Appointment successfully booked with dr. John Smith at Mon, 18 Nov 2024, 10:00
```

```
Mon, 18 Nov 2024

1. 09:00 : Available

2. 10:00 : Unavailable

3. 11:00 : Available

4. 12:00 : Available

5. 13:00 : Available

6. 14:00 : Available

7. 15:00 : Available

8. Back
Choose time:

2
Slot is unavailable!
```

1.1.5 Reschedule an Appointment

Appointments can be rescheduled through the 5th menu. Patients are required to choose the appointment they would like to reschedule and select a new doctor, time, and date for the appointment.

The changes are reflected in the availability schedule.

```
Wed, 20 Nov 2024
                         Thu, 21 Nov 2024
1. 09:00 : Available
                         1. 09:00 : Unavailable
                         2. 10:00 : Available
2. 10:00 : Available
3. 11:00 : Available
                         3. 11:00 : Available
4. 12:00 : Available
                         4. 12:00 : Available
                         5. 13:00 : Available
5. 13:00 : Available
                         6. 14:00 : Available
6. 14:00 : Available
                         7. 15:00 : Available
7. 15:00 : Available
8. Back
                         8. Back
```

1.1.6 Cancel an Appointment

Menu six allows patients to cancel appointments. Upon selecting it, a list of their appointments will be displayed and patients can choose appointment to cancel by entering the appointment ID.

The timeslot is now available for appointments.

```
Thu, 21 Nov 2024
1. 09:00 : Available
2. 10:00 : Available
3. 11:00 : Available
4. 12:00 : Available
5. 13:00 : Available
6. 14:00 : Available
7. 15:00 : Available
8. Back
```

1.1.7 View Scheduled Appointments

Scheduled appointments can be seen through the seventh menu, doctor's name, date, and time of appointment is shown as below:

1.1.8 View Past Appointment Outcome Records

Past appointment records can be seen from the 8th menu option.

1.2 Doctor Actions

1.2.1 View Patient Medical Records

Doctors can see medical records of a patient through the first menu. It shows patient's particulars and their past appointment records.

```
Hello John Smith, welcome to the doctor menu
1. View Patient Medical Records
2. Update Patient Medical Records (Outcome)
3. View Personal Schedule
4. Set Availability for Appointments
5. Accept or Decline Appointment Requests
6. View Upcoming Appointments
7. Record Appointment Outcome
8. Change Password
_____
Enter your choice: 1
1. P1001 Alice Brown
2. P1002 Bob Stone
3. P1003 Charlie White
Select patient:
                     : Alice Brown
: 14 May 1980
: alice.brown@example.com
Name
DOB
Email
Contact no.
Blood type
                     : A+
Previous appointment outcomes:
~ No appointment outcomes found!
```

1.2.2 Update Patient Medical Records

Doctors can also update previous records through the second option in the menu.

```
Hello John Smith, welcome to the doctor menu
1. View Patient Medical Records
2. Update Patient Medical Records (Outcome)

    View Personal Schedule
    Set Availability for Appointments

5. Accept or Decline Appointment Requests
6. View Upcoming Appointments
7. Record Appointment Outcome
8. Change Password
9. Logout
Enter your choice: 2
1. P1001 Alice Brown
2. P1002 Bob Stone
3. P1003 Charlie White
Select patient:
Past records:
Appt1731922856076. Mon, 18 Nov 2024: Fever
Select appointment ID of record to update:
Appt1731922856076
Enter updated record:
Record updated!
```

1.2.3 View Personal Schedule

Doctors can see their personal schedule through option 3 on their menu. Upon selecting the option, they are required to choose a date within the next 7 days and their hourly schedule would be shown as below:

```
Hello John Smith, welcome to the doctor menu
1. View Patient Medical Records
2. Update Patient Medical Records (Outcome)
3. View Personal Schedule
4. Set Availability for Appointments
5. Accept or Decline Appointment Requests
6. View Upcoming Appointments
7. Record Appointment Outcome
8. Change Password
9. Logout
1. Sun, 17 Nov 2024
6. Fin, 22 Nov 2024
7. Sat, 23 Nov 2024
8. Back
Choose date:
1
2 Sun, 17 Nov 2024
8. Back
Choose date:
1
2 Sun, 17 Nov 2024
9. Logout
1 Sun, 17 Nov 2024
9. Logout
9:00 Available
```

Appointments are also shown in the schedule.

```
Mon, 18 Nov 2024
1. 09:00 : Appt1731921676048 Alice Brown
2. 10:00 : Available
3. 11:00 : Available
4. 12:00 : Available
5. 13:00 : Available
6. 14:00 : Available
7. 15:00 : Available
```

1.2.4 Set Availability for Appointments

They can also set their availability through option 4. Similarly, they are required to choose the designated date, then time, before indicating availability. The changes are reflected in their personal schedule.

```
Hello John Smith, welcome to the doctor menu
1. View Patient Medical Records
   View Patient Medical Records
Update Patient Medical Records (Outcome)
View Personal Schedule
Set Availability for Appointments
Accept or Decline Appointment Requests
View Upcoming Appointments
Record Appointment Outcome
Change Password
Logout
                                                                                               Sun, 17 Nov 2024
1. 09:00
                                                                                                    10:00
                                                                                                     12:00
                                                                                                    13:00
                                                                                                    14:00
Enter your choice: 4
1. Sun, 17 Nov 2024
2. Mon, 18 Nov 2024
3. Tue, 19 Nov 2024
4. Wed, 20 Nov 2024
5. Thu, 21 Nov 2024
6. Fri, 22 Nov 2024
6. Fri, 23 Nov 2024
                                                                                                    15:00
                                                                                                                                                                             Sun, 17 Nov 2024
                                                                                                    Back
                                                                                                                                                                             1. 09:00 : Available
                                                                                               Choose time:
                                                                                                                                                                             2. 10:00 : Available
                                                                                                                                                                             3. 11:00 : Available
                                                                                               Indicate availability:
                                                                                                                                                                             4. 12:00 : Avai<mark>lable</mark>
                                                                                                 . Available
                                                                                                    Not available
                                                                                                                                                                             5. 13:00
                                                                                                                                                                                                 : Unavailable
    Sat,
Back
            23 Nov 2024
                                                                                                    Back
                                                                                                                                                                             6. 14:00
                                                                                                                                                                                                     Available
    ose date:
                                                                                                                                                                                   15:00 : Available
                                                                                                   vailable on Sun, 17 Nov 2024 13:00
```

1.2.5 Accept or Decline Appointment

Through the fifth menu, doctors can accept or decline appointments. They select the appointment and either accepts or declines it. The appointment will be reflected in their schedule.

```
Hello John Smith, welcome to the doctor menu

1. View Partient Medical Records

2. Update Patient Medical Records

3. View Personal Schedule

4. Set Availability for Appointments

5. Accept or Decline Appointment Requests

6. View Upcoming Appointment Outcome

8. Change Password

9. Logout

Enter your choice: 5

1. Appt1731921676048: (Alice Brown) Mon, 18 Nov 2024 09:00
Enter full appointment ID to accept (Enter 'Back' to cancel):

Appt1731921676048

1. Accept appointment

Enter selection: 1

Appointment accepted.

Mon, 18 Nov 2024

1. 09:00 : Appt1731921676048 Alice Brown

2. 10:00 : Available

3. 11:00 : Available

4. 12:00 : Available

5. 13:00 : Available

6. 14:00 : Available

7. 15:00 : Available
```

1.2.6 View Upcoming Appointments

Option six on the menu will show doctors a list of their upcoming appointments.

```
______
Hello John Smith, welcome to the doctor menu

    View Patient Medical Records

Update Patient Medical Records (Outcome)
3. View Personal Schedule
4. Set Availability for Appointments
5. Accept or Decline Appointment Requests
6. View Upcoming Appointments
Record Appointment Outcome
8. Change Password
9. Logout
_____
Enter your choice: 6
Upcoming appointments:
Appointment ID : Appt1731921676048
                   : Mon, 18 Nov 2024
: 09:00
Date
Time
Patient
                    : Alice Brown
```

1.2.7 Record Appointment Outcome

Appointment outcome can be updated through the 7th menu. After writing notes for the appointment, the list of medications prescribed is also asked in this menu.

```
Any medications prescribed?

1. Yes
1. View Patient Medical Records (Outcome)
2. Update Patient Medical Records (Outcome)
3. View Personal Schedule
4. Set Availability for Appointments
5. Accept or Decline Appointment Requests
6. View Upcoming Appointment S
7. Record Appointment Outcome
8. Change Password
9. Logout
1. Yes
1. Paracetamol
2. Ibuprofen
3. Amoxicillin
4. (Exit Menu)
Enter your choice: 7
1. Appt1731921676048: (Alice Brown) Mon, 18 Nov 2024 09:00
Enter medicine index or Exit:
1
Enter appointment outcome:
5
Enter full appointment outcome:
6 Feverish
6 Feverish
6 Feverish
7 Described?
7 No Contaction Sprescribed?
7 No Contaction Sprescri
```

The outcome is also reflected in patient's record.

1.3 Pharmacist Actions

1.3.1 View Appointment Outcome Record

The pharmacist can view the Appointment Outcome Record, specifically the medication orders needed for the prescription. This ensures privacy for the patient.

1.3.2 Update Prescription Status

The pharmacist is able to fulfil prescription orders. Once fulfilled, they are automatically updated to be FULFILLED (Also known as 'Dispensed')

1.3.3 View Medication Inventory

Within the main Pharmacy menu, option 2: Display stock, shows all medications available, their Stock and the health of their stock level. Stock lvl is either OK or LOW, this is determined by the low stock alert amount in the CSV, this is not available to be edited by the Pharmacist but is changeable by the Administrator.

```
Hello Mark Lee, welcome to the Pharmacy menu
1. All medication orders
2. Display stock
3. Request restock menu
 Request log
Change Password
6. Log off
_____
Enter selection:
______
Medication
                    Stock lvl
             Amount
_____
             100
                    OK
Paracetamol
Ibuprofen
                     OK
Amoxicillin
                     ОК
```

1.3.4 Submit Replenishment Request

If the pharmacist noticed that there is a medication that is low on stock, they can request a restock through the 3rd menu option. Upon selecting it, they are prompted to choose between requesting restock for all medications that are low in stock or selecting a certain medication. They are also asked to input the amount of medication to be restocked. After which, the request will be submitted pending administrator's approval.

```
Hello Mark Lee, welcome to the Pharmacy menu
1. All medication orders
2. Display stock
3. Request restock menu
4. Request log
  Change Password
6. Log off
Enter selection:
......
Medication
                     Amount Stock lvl
Paracetamol
                     100
                                ОК
Ibuprofen
                                ОК
Amoxicillin

    Request restock - Specific medication
    Request restock - All of low

  Cancel restock request
```

```
    Request restock - Specific medication
    Request restock - All of low

3. Cancel restock request
4. Back
Enter selection:
                                    Stock lvl
Paracetamol
                        100
                                     ОК
Ibuprofen
                        50
                                     OK
Amoxicillin
                                    OK
Which medication would you like to restock?
Paracetamol
How much would you like to restock?
Restock request has been made successfully.
```

1.4 Administrator actions

1.4.1 View and Manage Staff

Administrators can view and manage hospital staff through the first option in the menu. If they choose to view staff, there also have the option to filter staff through certain attributes or view all staff.

```
Viewing hospital staff...

1. Filter by Staff Role
2. Filter by Staff Gender
3. Filter by Staff Gender
3. Filter by Staff Gender
4. View and Manage Hospital Staff
5. Back
4. View and Manage Medication Inventory
4. Approve Replenishment Requests
5. Change Password
6. Logout
6. Logout
7. View and Manage Hospital Staff ---
7. View and Manage Hospital Staff
7. View Hospital Staff
8. Staff [StaffID='D002', Password: password Role: Doctor Name: Emily Clarke, Gender: Female, Age: 38}
8. Staff [StaffID='D002', Password: password Role: Doctor Name: Emily Clarke, Gender: Female, Age: 38}
8. Staff [StaffID='P001', Password: passw
```

Furthermore, admins can add staff, edit their detail, or remove staff through the manage staff menu.

```
Staff ID
                                                                                                                                James Bond
Male
Select action:
1. Add Staff
2. Update Staff Details
3. Remove Staff
                                                                                                                                69
Doctor
                                                                                                       Select item to edit:
                                                                                                          Name
Gender
Enter User ID: D003
Enter Name: James Bond
Enter Role: Doctor
Enter Gender: Male
  ter dender.
ter Age: 69
aff member added successfully.
1003, James Bond, Doctor, Male, 69 years old] added successfull
                                                                                                       -
Enter new staff age:
                                     StaffID='D001', Password: password
Role: Doctor Name: John Smith , Gender: Male , Age: 45}
                             Staff (StaffID='D002', Password: password
Role: Doctor Name: Emily Clarke , Gender: Female , Age: 38)
                             Staff {StaffID='A001', Password: pas
Role: Administrator Name: Sarah Lee , Gender: Female , Age: 40}
                                    {StaffID='D003', Password: password
Role: Doctor Name: James Bond , Gender: Male , Age: 69}
                       --- Remove hospital staff ----
                    Enter the User ID of the staff member to remove: D003
                     Staff member removed successfully.
                    User ID D003 removed.
```

1.4.2 View Appointment Details

Admins can see the details of any appointments through the second menu option. They also have the option to filter appointments based on doctors or patients. Alternatively, they can also search for a specific appointment through Appointment ID

```
Hello Sarah Lee, welcome to the Administrator menu
1. View and Manage Hospital Staff
2. Manage Appointments
3. View and Manage Medication Inventory
4. Approve Replenishment Requests
5. Change Password
Logout
                                                                         Enter doctor ID:
1. View Appointment Details
2. Manage Appointment Details
                                                                         0001
                                                                         Viewing appointments for D001 John Smith
3. Back
Select option:
                                                                        Appointment ID : Appt1731922856076
  ------View Appointment Details------
                                                                        Date
                                                                                                           : Mon, 18 Nov 2024
1. Filter by doctor
2. Filter by patient
3. Filter by Appointment ID
                                                                        Time
                                                                                                            : 09:00
                                                                         Patient
                                                                                                            : Alice Brown
                                                                        Status
                                                                                                            : Completed
   Back
Select option:
                                                                         Outcome
                                                                                                            : Chicken pox
```

1.4.3 View and Manage Medication Inventory

Admins are able to alter medication inventory through the third menu. They can add new medications or edit the details of an existing medication.

```
Select action:
1. Add Medication
2. Update Medication Fields
3. Back
Updating medication...
---- Update Medication ----
Enter name of medication to update:
Paracetamol
Name
              : Paracetamol
Quantity
Low Stock Alert
                      : 100
                        : 20
Select item to edit:
1. Name
2. Quantity
Low Stock Alert
4. Back
Enter new medicine quantity:
150
Quantity changed successfully!
```

The changes are then reflected in the inventory.

1.4.4 Approve Replenish Request

After a pharmacist submits a request to replenish a medication, an administrator needs to approve the request through the fourth menu. Upon doing so, a list of pending requests is shown. After approval, the updated medicine inventory is displayed as below:

```
----- Approve replenishment requests
View approved replenishment requests

    View pending replenishment requests
    Approve pending replenishment requests
    Back

Pending replenishment requests:
restockID Medicine Amount
1 Paracetamol 50
Enter Restock ID of request to approve:
                                                                        Status
                                                                       Pending_Admin
50 has been added to Paracetamol
 Medication
                                 Amount
                                                    Stock 1v1
Paracetamol
                                  150
                                                     ОК
Ibuprofen
                                  50
 Amoxicillin
                                                     OK
```

1.5 Login

1.5.1 First-Time Login and Password Change

Upon first login, users will be prompted to change their password.



On subsequent logins, users will be required to make use of their new password.

1.5.2 Login with Incorrect Credentials

When users put in the wrong password or username, login will fail and user is prompted to enter their login details again.

