Student ID	Student Name	Sec
17-35133-2	Shahariar Kabir Shuvo	B
18-37477-1	Sadia Binte Islam	B

Project Title_____

Health Check-Up Management System

Project Group No - **G14_B**
Project In-charge - **Rifath Mahmud**

GitHub Link: https://github.com/Shahariarkabir/Health-Check-Up-Management-System

Overview

The Health Check-Up management system (HCMS) is an integrated Console based application which is written in Java that handles different directions of clinic's check-up workflows.

This project helps the Admin and Patient. Also, it helps to maintain the patient's health report and appointment.

 It manages the smooth healthcare performance along with administrative and medical control. That is a cornerstone for the successful operation of the healthcare facility.

Goals

- Administrators are able to manage add patient, report, assign new test base on Patient ID, appointments, deliver check-up reports, manage patient lists and have more facilities.
- Patients can easily book an appointment, check testing costs   and collect the reports.

Features of the Project

➜ In this project the "**Admin**" has the following features:

- ◆ Log-In
- ◆ Add New Patient
- ◆ Search Patient
- ◆ Add Report
- ◆ Add Tests for Patient
- ◆ Create Patients Appointments.
- ◆ View Patients Appointments Details.
- ◆ Check the particular check-up cost.
- ◆ View Patients Test Details.
- ◆ View Total patients list.
- ◆ Log-Out

➜ In this project the "**Patient**" has the following features:

- ◆ Log-In
- ◆ Book Appointments.
- ◆ View Appointments Details.
- ◆ Check testing costs.
- ◆ View Patient Test Details.
- ◆ View Test Reports.
- ◆ Log-Out

Specifications

In order to run this project, we will require IntelliJ IDEA IDE, and Windows terminal/Console. When run this console user needs to submit a number as the print option.

When you run this project, you will see in the console A Welcome Message. Then In the console you'll see a message that will ask you what type of user you are!! If you are Admin then you have to choose Admin option or if you are a Patient then you'll choose the Patient option. If any user chooses the wrong option then a message will show that he is wrong.

I. Admin:

After log in, Admin can choose multiple options. By using those options, they can view data of patient, appointments and the reports. If an Admin wants to go to the home page then he can log-out from the system.

II. Patient:

After log in, patients can choose multiple options. They can book appointments, view appointments, test costs and test reports. If a Patient wants to go to the home page then he can log-out from the system.

Tools Used

- IntelliJ IDEA IDE
- VS Code
- Notepad++
- Git Bash
- Windows Terminal
- GitHub

Console Based Output:

Login the Admin Portal

```
Loading personal and system profiles took 585ms.
kabir@DESKTOP-97NKEAD   ~\Desktop\Health-Check-Up-Management-System    master ≡ +5 ~0 -0   +6 ~2 -2 !                [21:39]
> javac Main.java
kabir@DESKTOP-97NKEAD   ~\Desktop\Health-Check-Up-Management-System    master ≡ +5 ~0 -0   +8 ~2 -2 !                [21:39]
> java Main

Welcome To  Health Check-Up Management System
In This System, we provide you
1. Admin
2. Patient
Please Enter Your Preferred Option :
```

```
Welcome To  Health Check-Up Management System
In This System, we provide you
1. Admin
2. Patient
Please Enter Your Preferred Option :1
Can I know your Admin ID :103
Oops!! Admin You Provide Wrong Information
No Worry Admin, Please Enter again :101
Hurree!!
Admin is always a SuperHero You can use Functionality from the list
1. Add New Patient
2. Search Patient
3. Add Report
4. Add Tests for Patient
5. Create Patients Appointments.
6. View Patients Appointments Details.
7. Check Particular check-up cost.
8. View Patients test Details.
9. View Total patients list
10. Logout
Please Enter your Preferred Option :
```

```
Please Enter your Preferred Option : 1
Please Enter patient ID : 3010
Please Enter patient Name : Shuvo
Please Enter patient Gender : Male
Please Enter patient Age : 23

Available Tests: 501 502 503 504 505
Enter the test numbers separated by space from the above list: 501
Patient added successfully

Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
```

```
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
0
Hurree!!
Admin is always a SuperHero You can use Functionality from the list
1. Add New Patient
2. Search Patient
3. Add Report
4. Add Tests for Patient
5. Create Patients Appointments.
6. View Patients Appointments Details.
7. Check Particular check-up cost.
8. View Patients test Details.
9. View Total patients list
10. Logout
Please Enter your Preferred Option :
```

```
Please Enter your Preferred Option : 2
Please Enter patient ID : 3001
3001 Shahariar Male 21
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
```

```
Please Enter your Preferred Option : 2
Please Enter patient ID : 3010
3010 Shuvo Male 23
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
```

```
Please Enter your Preferred Option : 3
Please Enter patient ID : 3010
Enter value for the Test ID 501: O+
Report added successfully.
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
```

```
Please Enter your Preferred Option : 4
Please Enter patient ID : 3001
Enter Test ID to add: 501
Test already exists for the patient
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
```

```
Please Enter your Preferred Option : 4
Please Enter patient ID : 3001
Enter Test ID to add: 505
Test added to patient successfully
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
```

```
Please Enter your Preferred Option : 5
Please Enter patient ID : 3010
Please Enter Preferred Date : 22 Nov 2020
Appointment Booked
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
|
```

```
Please Enter your Preferred Option : 6
Appointment Details
ID: 3001, Appointment Date: 23 Sep 2020
ID: 3002, Appointment Date: 25 Sep 2020
ID: 3003, Appointment Date: 30 Sep 2020
ID: 3010, Appointment Date: 22 Nov 2020
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
```

```
Please Enter your Preferred Option : 7
List of all Checkups and their id
501 - Blood C/S Aerobic
502 - Bone Marrow Fluid C/S
503 - Covid-19
504 - Ct Anglo Ct
505 - Emg Both Lower Limbs
Enter Test id
|
```

```
Enter Test id
505
505 Emg Both Lower Limbs 850
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
|
```

```
Please Enter your Preferred Option : 8
All Patients and their Id's

3001       Shahariar
3002       Kabir
3003       Riya
3010       Shuvo
Enter a patient id to see its report: 3001
3001 Shahariar Male 21
501 Blood C/S Aerobic 150
503 Covid-19 250
505 Emg Both Lower Limbs 850
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
|
```

```
Please Enter your Preferred Option : 9
Total Patients List

3001 Shahariar Male 21

3002 Kabir Male 23

3003 Riya Female 18

3010 Shuvo Male 23

Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
|
```

```
Admin, If  Want to Back Home Enter 0
 Otherwise, Please Enter 10 for Log-out
10
Do you want to go back to Login Screen ? (YES/NO) : Yes

Welcome To  Health Check-Up Management System
In This System, we provide you
1. Admin
2. Patient
Please Enter Your Preferred Option :|
```

Now we login in the Patient Portal :

```
Welcome To  Health Check-Up Management System
In This System, we provide you
1. Admin
2. Patient
Please Enter Your Preferred Option :2
Can i know your Patient ID:3010
Yipee!!
You are a RockStar. Here we Glad to inform you
We have 5 Types of Awesome Category.
1. Create Patients Appointments.
2. View Patients Appointments Details.
3. Check Particular check-up cost.
4. View Patients test Details.
5. View Reports
6. Logout
Please Enter your Preferred Option
|
```

```
Please Enter your Preferred Option
1
Please Enter Preferred Date:
30 Nov 2020
Appointment created successfully
Patient, If you Want to Back Home Enter 0
 Otherwise, Please Enter 6 for Log-out
|
```

```
8. Logout
Please Enter your Preferred Option
2
Appointment Details
ID: 3010, Appointment Date: 22 Nov 2020
ID: 3010, Appointment Date: 30 Nov 2020
Patient, If you Want to Back Home Enter 0
 Otherwise, Please Enter 6 for Log-out
|
```

```
Please Enter your Preferred Option
3
List of all Checkups and their id
501 - Blood C/S Aerobic
502 - Bone Marrow Fluid C/S
503 - Covid-19
504 - Ct Anglo Ct
505 - Emg Both Lower Limbs
Enter Test id
501
501 Blood C/S Aerobic 150
Patient, If you Want to Back Home Enter 0
 Otherwise, Please Enter 6 for Log-out
|
```

```
Please Enter your Preferred Option
4
501 Blood C/S Aerobic 150
Patient, If you Want to Back Home Enter 0
 Otherwise, Please Enter 6 for Log-out
|
```

```
Please Enter your Preferred Option
5
3010 Shuvo Male 23
501 Blood C/S Aerobic O+
Report Successfully Saved to the file.
Patient, If you Want to Back Home Enter 0
 Otherwise, Please Enter 6 for Log-out
|
```

```
Please Enter your Preferred Option
6

Welcome To  Health Check-Up Management System
In This System, we provide you
1. Admin
2. Patient
Please Enter Your Preferred Option :|
```

OOP and java Concepts Used

- **Scanner Class:**

    We used Scanner class is used to get user input. To use the Scanner class, we have created two objects of the class. The objects are – scnum, scstr.

- **Inheritance:**

    We used inheritance to inherit the Parent Abstract Class Person to use Components For the project. Here, the children classes for the Person class are Admin & Patient.

- **Association**

    Association in Java is a connection or relation between two separate classes that are set up through their objects. relationship indicates how objects know each other and how they are using each other's functionality.

- **Interface:**

    We had to implement interfaces defined in Printable class to customize Our needs. We implemented those methods as per our usage and Requirements.

- **Polymorphism:**

    We made some of our methods polymorphism in Report class in our project. The methods are printDetails() and printDetails(Reports r).

- **Abstraction:**

    We have used an Abstract Class which is Person in our project. An abstract class is a class that we cannot instantiate (cannot create object)

- **Typecasting:**

    There're many type castings used project wise. Sometimes we had to get our job done by casting data types to another. We used type casting in Main Class ,Patient Class, Cost Class in our project.

- **Arrays**

    An array is a collection of similar types of data or value. As we are working on different types of similar data, we are using an array here to complete our project.

- **Files and I/O**

    File Handling is necessary to perform various tasks on a file, such as read, write, etc. We use two important streams are FileInputStream and FileOutputStream. In Main Class after printing the Patient's report , The file with patient name generated. it contains the Report of the patient.

- **Package**

    Packages are a feature of the Java programming language that help us to organize and structure our classes and their relationships to one another. We created user defined packages here. These are : Class & Interface.

- **Exception Handling**

    A Java exception is an object that describes an exceptional condition that has occurred in a piece of code. When an exceptional condition arises, an object representing that exception is created and thrown in the method that caused the error. That method may choose to handle the exception itself or pass it on. We used FilenotFound exception in Main Class in our project.

Limitations and Possible Future Improvements

There are a lot of limitations for this project. Patients cannot use this system online for appointment and contact. There is no scope to access this system by multiple admins. Here there is no option for patients' images and sending data through online. As we can't use databases here so it's not possible to create a user interface and also, we could not manage the online payment system here.

Scope to improve this project in future

There are many scopes to improve this project. In the future, we can Design and Implement as Apps, they will be able to use this system though online. Patients will be able to download the data from the system as a file. In future, online help centers for patients will be available and patients will be fixed with appointments with doctors.

Conclusion

Here in this system, there are two types of users - one is admin and another is patient. Most of the tasks are done by Admin. Patients can easily get appointments, test expenses and test reports through the console system.

In this project, we are using JDK-14 (java) and Windows Terminal. We mostly use the OOP concepts to build this system.