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College of Science and Humanities
Computer Science Department

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College of Science and Humanities - Computer Science

Patient Need HDN

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Introduction

Our java program is related to Patient Need HDN which means Patient Need Hospital Doctor Nurse the basics in every hospital, it is simply to make some tasks in hospital easier, make an environment for doctors and their Patients they can communicate together or at least check appointments . user will sign in by entering some information and after that, if the user doctor they have access to make some function, for example, reserving emergency appointments they can also check Patient and Nurse information , if the user is a Nurse the can check information about doctor schedule to reserve appointments for the patient , but the patient can just see its own schedule . and more function we will see it .

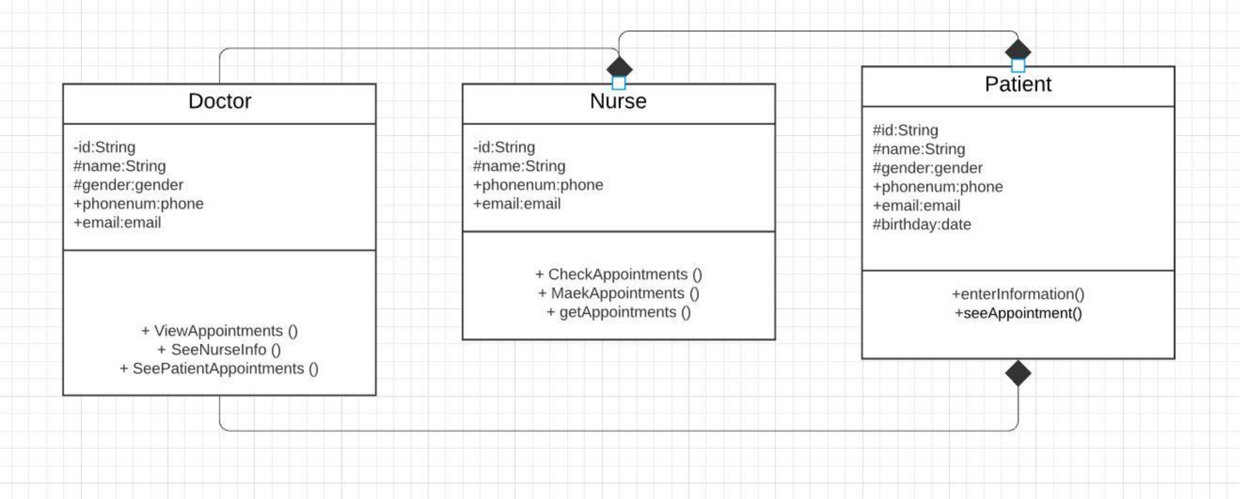
The problem statement

Difficulty communicating with the hospital to see the appointments or to check the prescription, and to find a way to make it easier for doctors to read the reports on the patient’s condition.

The target

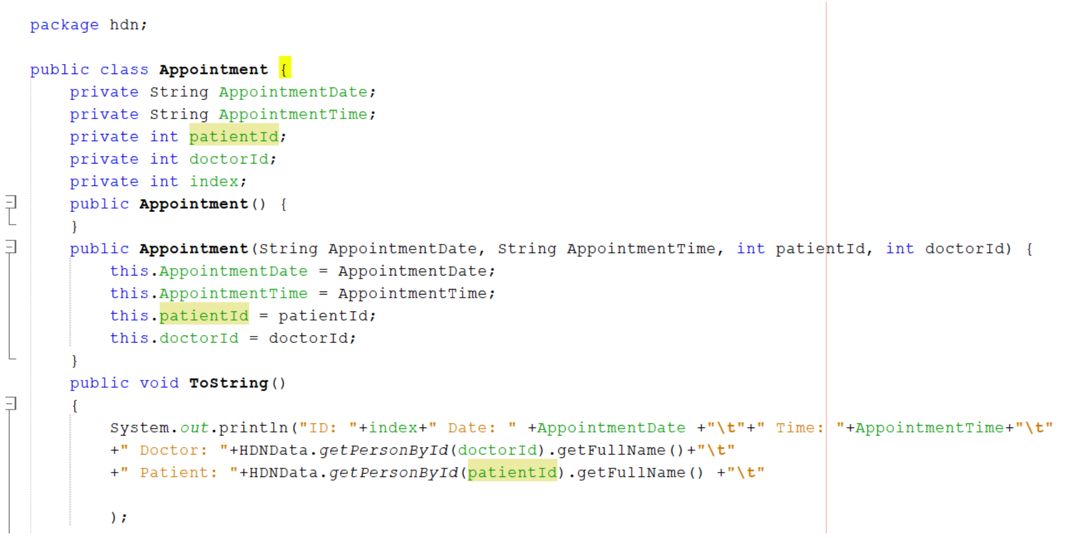
make an environment for doctors and their patients they can communicate together or at least check appointments .

UML

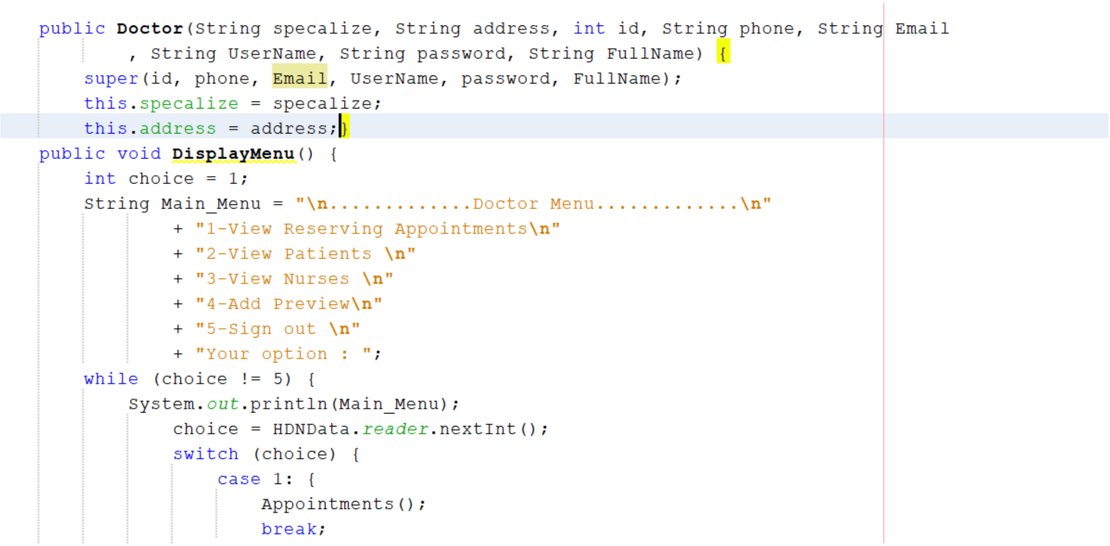


Full code

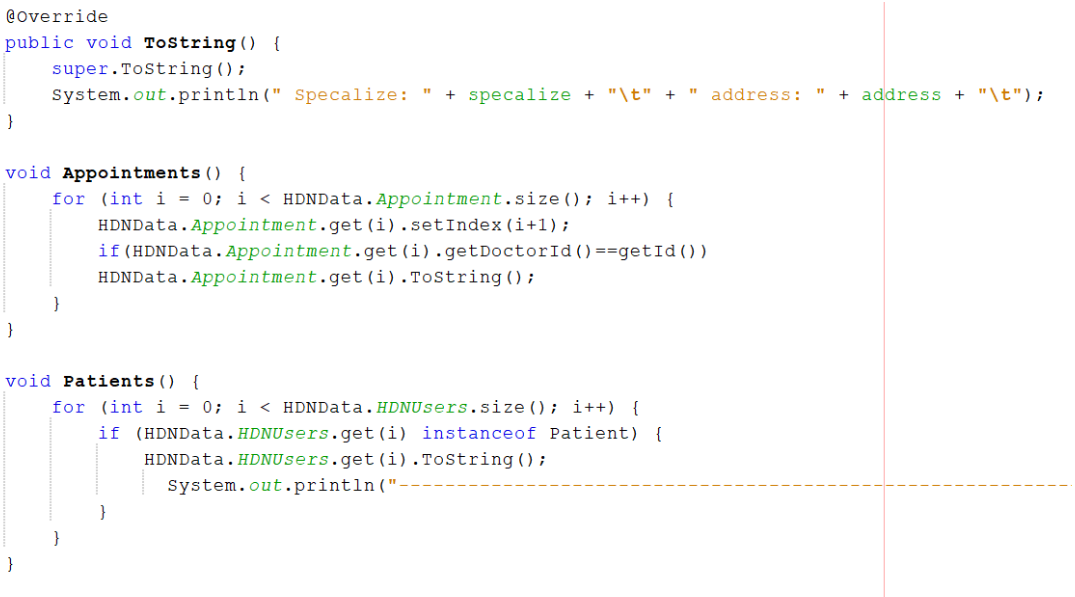
Appointment


```
package hdn;

public class Appointment {
    private String AppointmentDate;
    private String AppointmentTime;
    private int patientId;
    private int doctorId;
    private int index;
    public Appointment() {
    }
    public Appointment(String AppointmentDate, String AppointmentTime, int patientId, int doctorId) {
        this.AppointmentDate = AppointmentDate;
        this.AppointmentTime = AppointmentTime;
        this.patientId = patientId;
        this.doctorId = doctorId;
    }
    public void ToString()
    {
        System.out.println("ID: "+index+" Date: " +AppointmentDate +"\t"+" Time: "+AppointmentTime+"\t"
        +" Doctor: "+HDNData.getPersonById(doctorId).getFullName()+"\t"
        +" Patient: "+HDNData.getPersonById(patientId).getFullName() +"\t"

        );
```

Doctor

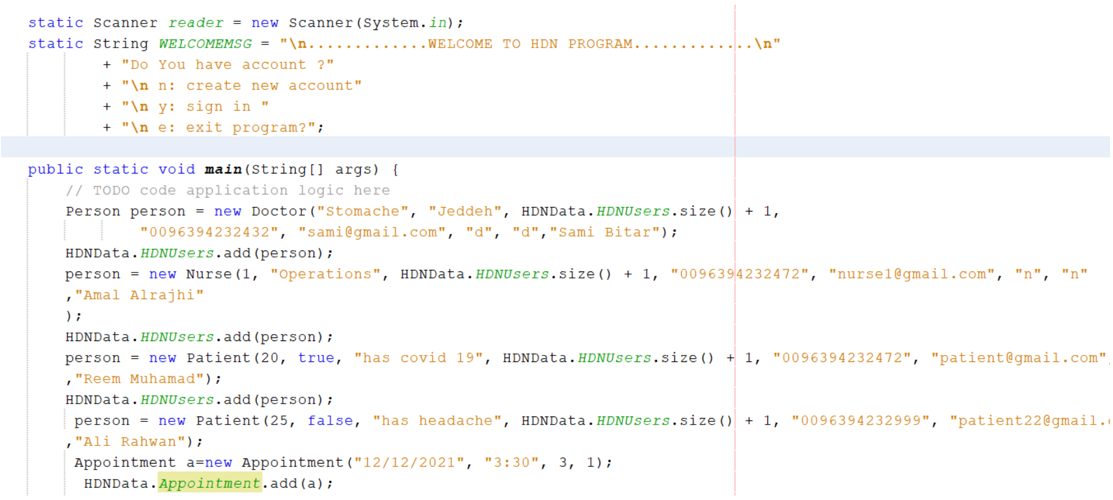


```java
public Doctor(String specalize, String address, int id, String phone, String Email
        , String UserName, String password, String FullName) {
    super(id, phone, Email, UserName, password, FullName);
    this.specalize = specalize;
    this.address = address;}
public void DisplayMenu() {
    int choice = 1;
    String Main_Menu = "\n.............Doctor Menu.............\n"
            + "1-View Reserving Appointments\n"
            + "2-View Patients \n"
            + "3-View Nurses \n"
            + "4-Add Preview\n"
            + "5-Sign out \n"
            + "Your option : ";
    while (choice != 5) {
        System.out.println(Main_Menu);
            choice = HDNData.reader.nextInt();
            switch (choice) {
                case 1: {
                    Appointments();
                    break;
```

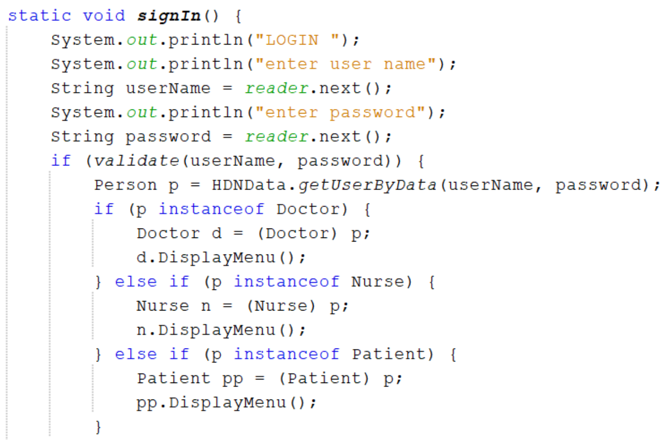


```java
@Override
public void ToString() {
    super.ToString();
    System.out.println(" Specalize: " + specalize + "\t" + " address: " + address + "\t");
}

void Appointments() {
    for (int i = 0; i < HDNData.Appointment.size(); i++) {
        HDNData.Appointment.get(i).setIndex(i+1);
        if(HDNData.Appointment.get(i).getDoctorId()==getId())
        HDNData.Appointment.get(i).ToString();
    }
}

void Patients() {
    for (int i = 0; i < HDNData.HDNUsers.size(); i++) {
        if (HDNData.HDNUsers.get(i) instanceof Patient) {
            HDNData.HDNUsers.get(i).ToString();
             System.out.println("-----------------------------------------------------------
        }
    }
}
```

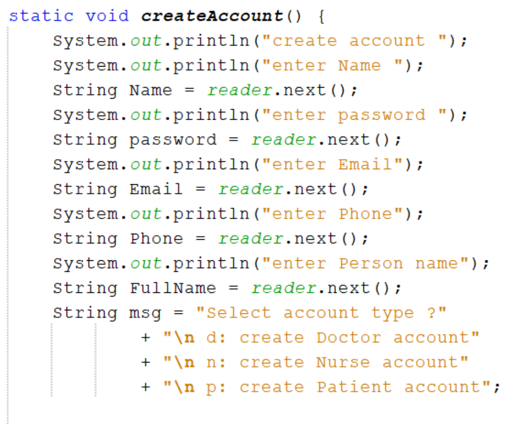
HDN



```
static Scanner reader = new Scanner(System.in);
static String WELCOMEMSG = "\n.............WELCOME TO HDN PROGRAM.............\n"
        + "Do You have account ?"
        + "\n n: create new account"
        + "\n y: sign in "
        + "\n e: exit program?";

public static void main(String[] args) {
    // TODO code application logic here
    Person person = new Doctor("Stomache", "Jeddeh", HDNData.HDNUsers.size() + 1,
            "0096394232432", "sami@gmail.com", "d", "d","Sami Bitar");
    HDNData.HDNUsers.add(person);
    person = new Nurse(1, "Operations", HDNData.HDNUsers.size() + 1, "0096394232472", "nurse1@gmail.com", "n", "n"
    ,"Amal Alrajhi"
    );
    HDNData.HDNUsers.add(person);
    person = new Patient(20, true, "has covid 19", HDNData.HDNUsers.size() + 1, "0096394232472", "patient@gmail.com",
    ,"Reem Muhamad");
    HDNData.HDNUsers.add(person);
     person = new Patient(25, false, "has headache", HDNData.HDNUsers.size() + 1, "0096394232999", "patient22@gmail.
    ,"Ali Rahwan");
     Appointment a=new Appointment("12/12/2021", "3:30", 3, 1);
      HDNData.Appointment.add(a);
```

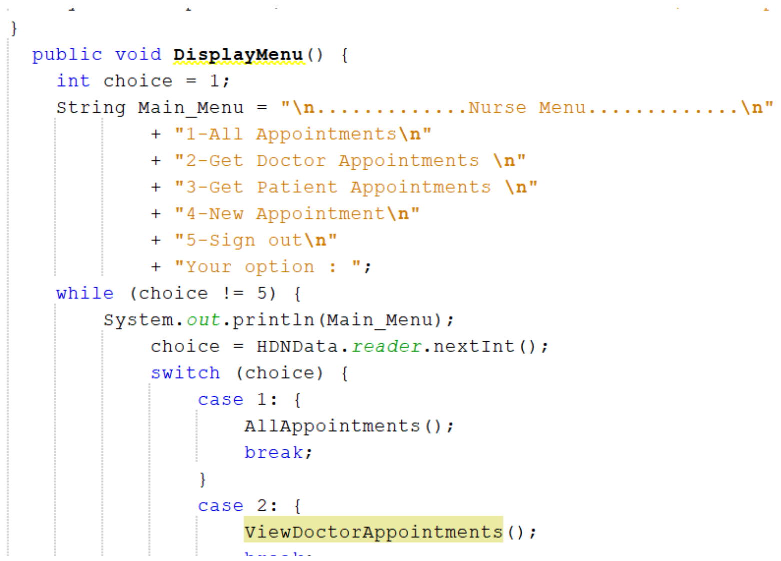


```
static void signIn() {
    System.out.println("LOGIN ");
    System.out.println("enter user name");
    String userName = reader.next();
    System.out.println("enter password");
    String password = reader.next();
    if (validate(userName, password)) {
        Person p = HDNData.getUserByData(userName, password);
        if (p instanceof Doctor) {
            Doctor d = (Doctor) p;
            d.DisplayMenu();
        } else if (p instanceof Nurse) {
            Nurse n = (Nurse) p;
            n.DisplayMenu();
        } else if (p instanceof Patient) {
            Patient pp = (Patient) p;
            pp.DisplayMenu();
        }
```

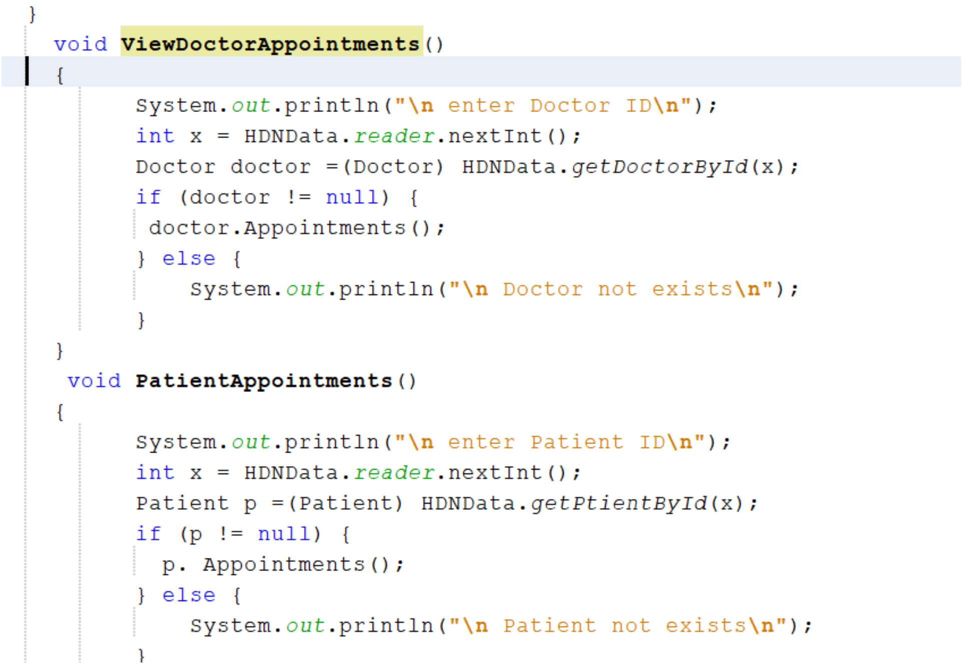


```
static void createAccount() {
    System.out.println("create account ");
    System.out.println("enter Name ");
    String Name = reader.next();
    System.out.println("enter password ");
    String password = reader.next();
    System.out.println("enter Email");
    String Email = reader.next();
    System.out.println("enter Phone");
    String Phone = reader.next();
    System.out.println("enter Person name");
    String FullName = reader.next();
    String msg = "Select account type ?"
            + "\n d: create Doctor account"
            + "\n n: create Nurse account"
            + "\n p: create Patient account";
```

Nurse

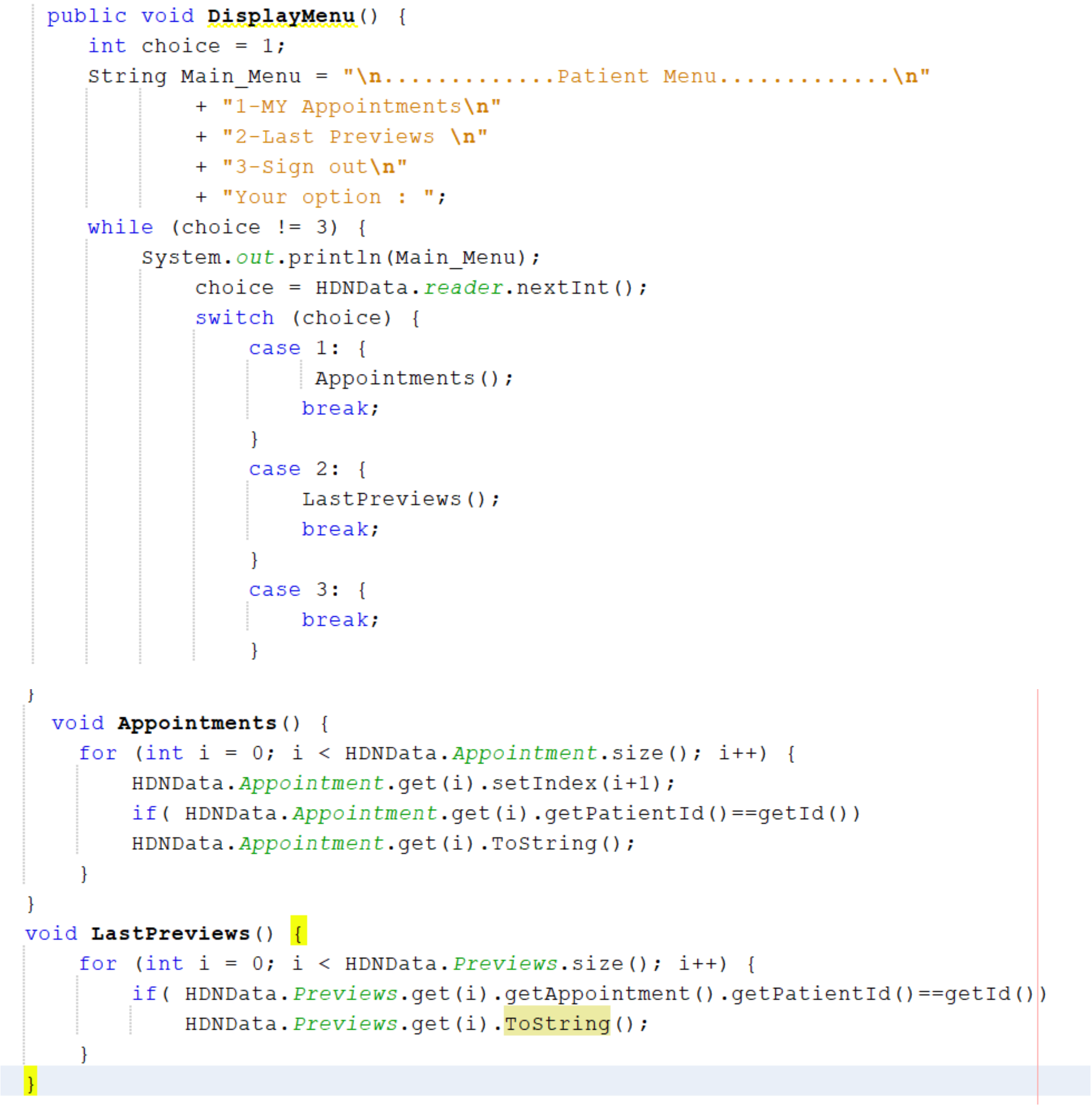


```
}
 public void DisplayMenu() {
   int choice = 1;
   String Main_Menu = "\n............Nurse Menu.............\n"
           + "1-All Appointments\n"
           + "2-Get Doctor Appointments \n"
           + "3-Get Patient Appointments \n"
           + "4-New Appointment\n"
           + "5-Sign out\n"
           + "Your option : ";
   while (choice != 5) {
       System.out.println(Main_Menu);
           choice = HDNData.reader.nextInt();
           switch (choice) {
               case 1: {
                   AllAppointments();
                   break;
               }
               case 2: {
                   ViewDoctorAppointments();
                   break;
```



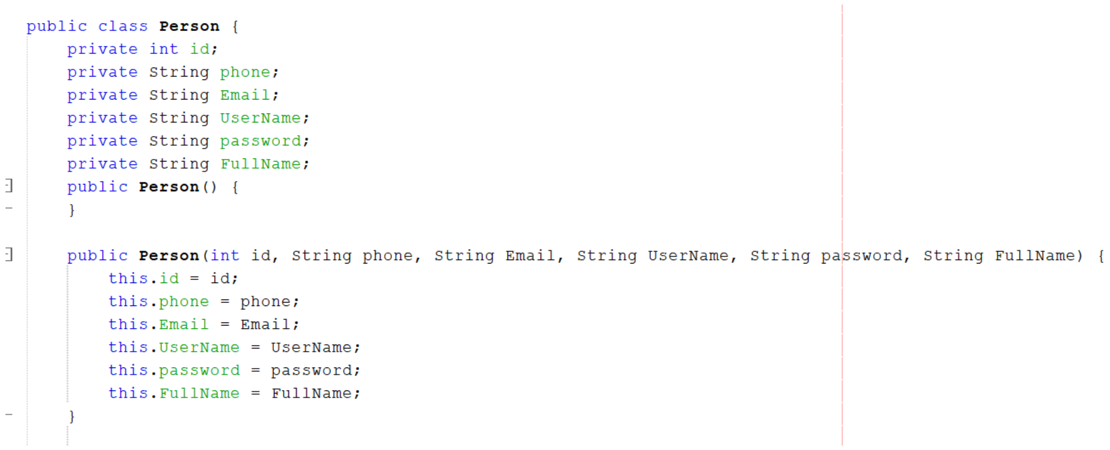
```
}
 void ViewDoctorAppointments()
 {
       System.out.println("\n enter Doctor ID\n");
       int x = HDNData.reader.nextInt();
       Doctor doctor =(Doctor) HDNData.getDoctorById(x);
       if (doctor != null) {
        doctor.Appointments();
       } else {
           System.out.println("\n Doctor not exists\n");
       }
 }
  void PatientAppointments()
 {
       System.out.println("\n enter Patient ID\n");
       int x = HDNData.reader.nextInt();
       Patient p =(Patient) HDNData.getPtientById(x);
       if (p != null) {
         p. Appointments();
       } else {
           System.out.println("\n Patient not exists\n");
       }
```

Patient



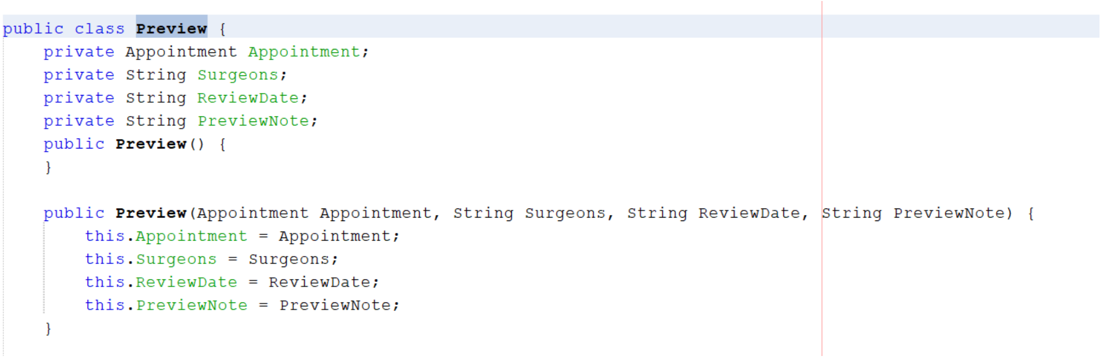
```
public void DisplayMenu() {
    int choice = 1;
    String Main_Menu = "\n............Patient Menu............\n"
            + "1-MY Appointments\n"
            + "2-Last Previews \n"
            + "3-Sign out\n"
            + "Your option : ";
    while (choice != 3) {
        System.out.println(Main_Menu);
            choice = HDNData.reader.nextInt();
            switch (choice) {
                case 1: {
                     Appointments();
                    break;
                }
                case 2: {
                    LastPreviews();
                    break;
                }
                case 3: {
                    break;
                }

}
  void Appointments() {
    for (int i = 0; i < HDNData.Appointment.size(); i++) {
        HDNData.Appointment.get(i).setIndex(i+1);
        if( HDNData.Appointment.get(i).getPatientId()==getId())
        HDNData.Appointment.get(i).ToString();
    }
}
void LastPreviews() {
    for (int i = 0; i < HDNData.Previews.size(); i++) {
        if( HDNData.Previews.get(i).getAppointment().getPatientId()==getId())
            HDNData.Previews.get(i).ToString();
    }
}
```

Person

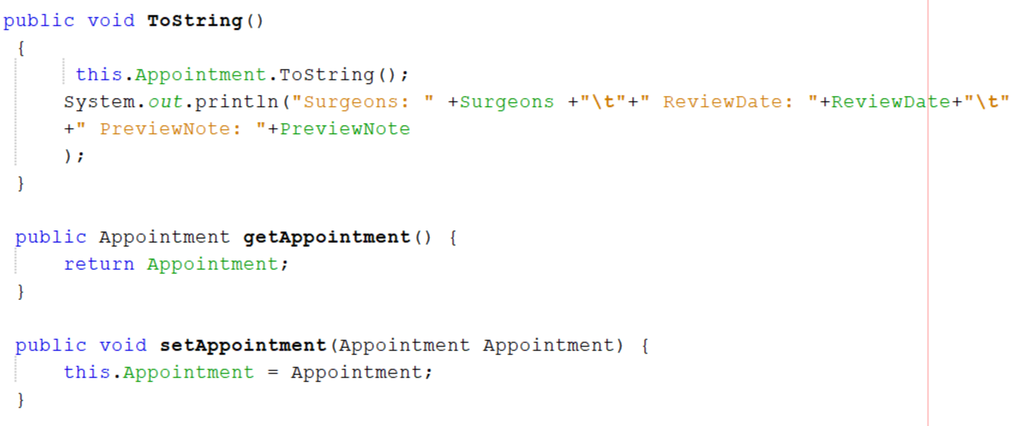


```
public class Person {
    private int id;
    private String phone;
    private String Email;
    private String UserName;
    private String password;
    private String FullName;
    public Person() {
    }

    public Person(int id, String phone, String Email, String UserName, String password, String FullName) {
        this.id = id;
        this.phone = phone;
        this.Email = Email;
        this.UserName = UserName;
        this.password = password;
        this.FullName = FullName;
    }
```

Preview



```java
public class Preview {
    private Appointment Appointment;
    private String Surgeons;
    private String ReviewDate;
    private String PreviewNote;
    public Preview() {
    }

    public Preview(Appointment Appointment, String Surgeons, String ReviewDate, String PreviewNote) {
        this.Appointment = Appointment;
        this.Surgeons = Surgeons;
        this.ReviewDate = ReviewDate;
        this.PreviewNote = PreviewNote;
    }
```



```java
public void ToString()
 {
      this.Appointment.ToString();
     System.out.println("Surgeons: " +Surgeons +"\t"+" ReviewDate: "+ReviewDate+"\t"
     +" PreviewNote: "+PreviewNote
     );
 }

 public Appointment getAppointment() {
     return Appointment;
 }

 public void setAppointment(Appointment Appointment) {
     this.Appointment = Appointment;
 }
```

Conclusion

At the end, we build this project to do tasks easier in hospital ,and make an environment for doctors and their Patients with they can communicate together or at least check appointments and previews. For future work, we hope to design a website or application that can be download on a mobile phone for easier access. Finally, we wished that we have more time to be more creative and provide more services and maybe we will improve it next semester.