

Ain Shams University  
Faculty of Engineering  
Discipline Programs



***Advanced Computer Programming  
Major Task Report***

***Computer Engineering and Software  
Systems (CESS)***

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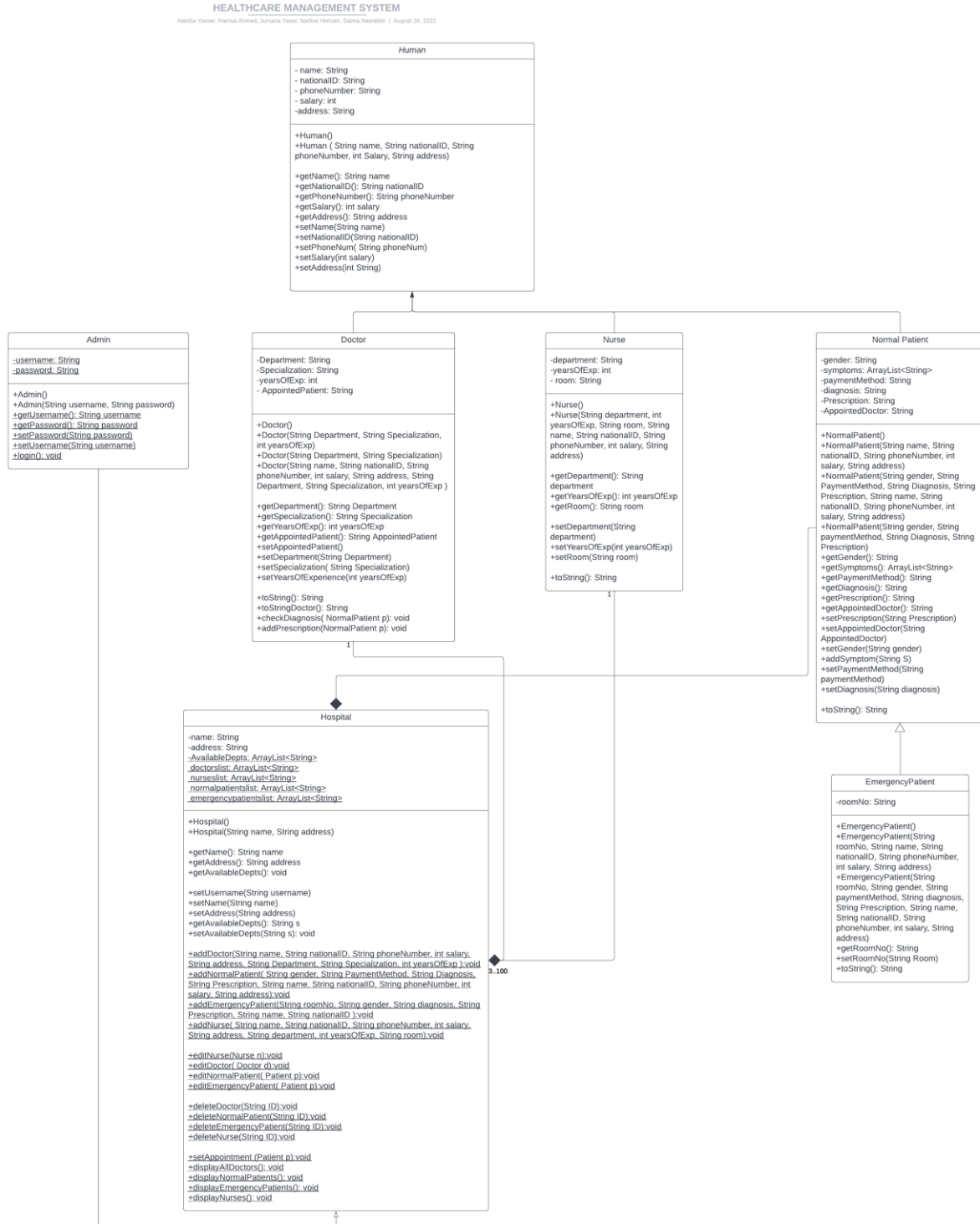
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# 1.0 UML Diagram



## 2.0 Java Code

### 2.1 Class Human

The first class we created was Human class which is the superclass of Doctor, NormalPatient, EmergencyPatient and Nurse classes.

```
5 package com.mycompany.healthcaremanagementsystem;
6
7 /**
8  *
9  * @author Jumana
10 */
11
12 @public abstract class Human {
13     private String name;
14     private String nationalID;
15     private String phoneNumber;
16     private int salary;
17     private String address;
18
19     public Human(String name, String nationalID, String phoneNumber, int salary, String address) {
20         this.name = name;
21         this.nationalID = nationalID;
22         this.phoneNumber = phoneNumber;
23         this.salary = salary;
24         this.address = address;
25     }
26
27     public Human() {
28
29     }
30
31     public String getName() {
32         return name;
33     }
34
35     public void setName(String name) {
36         this.name = name;
37     }
38
39     public String getNationalID() {
40
41     }
42
43     public void setNationalID(String nationalID) {
44         this.nationalID = nationalID;
45     }
46
47     public String getPhoneNumber() {
48         return phoneNumber;
49     }
50
51     public void setPhoneNumber(String phoneNumber) {
52         this.phoneNumber = phoneNumber;
53     }
54
55     public int getSalary() {
56         return salary;
57     }
58
59     public void setSalary(int salary) {
60         this.salary = salary;
61     }
62
63     public String getAddress() {
64         return address;
65     }
66
67     public void setAddress(String address) {
68         this.address = address;
69     }
70
71
72
73 }
74
```

As seen in the picture above, we added the attributes that each of its subclasses will inherit. We also added its parameterized constructor and the empty constructor then we wrote the getters and setters for each attribute to be able to access them outside of the class as they are private.

## 2.2 Doctor Class

Then we created Doctor class which extends Human class but we added more to its attributes than the ones inherited from the super class like department, specialization and yearsOfexp and the doctor's AppointedPatient. Then we created its toString to display doctor attributes when needed. Then we wrote its setters, getters, empty constructor and parameterized constructors. Furthermore, we wrote a function called checkDiagnosis that will print the patient's diagnosis and another function called addPrescription which will allow the doctor to give prescriptions to the patient.

```
4  /*
5  package com.mycompany.healthcaremanagementsystem;
6
7  import java.util.Scanner;
8
9  /**
10   *
11   * @author Jumana
12   */
13  public class Doctor extends Human {
14
15      private String Department;
16      private String Specialization;
17      private int yearsOfExp;
18      private String AppointedPatient;
19
20
21
22
23
24
25
26  @Override
27  public String toString() {
28      return " Name: " + getName() + ", NationalID: " + getNationalID() + "Department: " + Department + ", Specialization: " + Specialization + ", yearsOfExp: " + years
29          + ", AppointedPatient: " + AppointedPatient + ", Phone Number: " + getPhoneNumber() + ", Salary: " + getSalary()
30          + ", Address: " + getAddress();
31  }
32
33  public String toStringDoctor() {
34      return "Doctor [ Name(): " + getName() + "Department: " + Department + ", Specialization: " + Specialization + ", yearsOfExp: " + yearsOfExp
35          + ", AppointedPatient: " + AppointedPatient + " ]";
36  }
37
38 }
```

```

38
39 public String getAppointedPatient() {
40     return AppointedPatient;
41 }
42
43 public void setAppointedPatient(String appointedPatient) {
44     AppointedPatient = appointedPatient;
45 }
46
47 public String getDepartment() {
48     return Department;
49 }
50
51
52
53 public void setDepartment(String Department) {
54     this.Department = Department;
55 }
56
57
58
59 public String getSpecialization() {
60     return Specialization;
61 }
62
63
64
65 public void setSpecialization(String Specialization) {
66     this.Specialization = Specialization;
67 }
68
69

```

```

70
71 public int getYearsOfExp() {
72     return yearsOfExp;
73 }
74

```

```

76
77 public void setYearsOfExp(int yearsOfExp) {
78     this.yearsOfExp = yearsOfExp;
79 }
80
81
82
83 public Doctor(String Department, String Specialization, int yearsOfExp) {
84     this.Department = Department;
85     this.Specialization = Specialization;
86     this.yearsOfExp = yearsOfExp;
87 }
88
89
90
91 public Doctor(String Department, String Specialization) {
92     this.Department = Department;
93     this.Specialization = Specialization;
94 }
95
96
97 public Doctor(String name, String nationalID, String phoneNumber, int salary, String address, String Department, String Specialization, int yearsOfExp) {
98     super(name, nationalID, phoneNumber, salary, address);
99     this.Department = Department;
100     this.Specialization = Specialization;
101     this.yearsOfExp = yearsOfExp;
102 }
103
104 public Doctor() {
105 }
106
107 public void checkDiagnosis(NormalPatient p) {
108     System.out.println(p.getDiagnosis());
109 }
110
111 public void addPrescription(NormalPatient p) {
112     Scanner input = new Scanner(System.in);
113     input.close();
114     String x = input.nextLine();
115     p.setPrescription(x);

```

## 2.3 NormalPatient Class

Next, we created NormalPatient Class a subclass of Human class which will contain all attributes required to be put in patient in the major task pdf and a few extra like diagnosis, gender, paymentMethod, prescription, AppointedDoctor and an array list of the patient's symptoms, it will also be the superclass of EmergencyPatient class. We wrote its setters, getters, constructors and toString function to display attributes when needed.

```
5 package com.mycompany.healthcaremanagementsystem;
6
7 import java.util.ArrayList;
8
9 /**
10  *
11  * @author Jumana
12  */
13
14 public class NormalPatient extends Human {
15     private String gender;
16     private ArrayList<String> symptoms = new ArrayList<String>();
17     private String paymentMethod;
18     private String diagnosis;
19     private String Prescription;
20     private String AppointedDoctor;
21
22     public String getAppointedDoctor() {
23         return AppointedDoctor;
24     }
25
26
27     public void setAppointedDoctor(String appointedDoctor) {
28         AppointedDoctor = appointedDoctor;
29     }
30
31
32
33     public NormalPatient() {
34
35     }
36
37 }
```

```
39
40
41 public NormalPatient(String name, String nationalID, String phoneNumber, int salary, String address) {
42     super(name, nationalID, phoneNumber, salary, address);
43 }
44
45
46
47 public NormalPatient(String gender, String paymentMethod, String diagnosis, String Prescription, String name, String nationalID, String phoneNumber, int salary, String
48     super(name, nationalID, phoneNumber, salary, address);
49     this.gender = gender;
50     this.paymentMethod = paymentMethod;
51     this.diagnosis = diagnosis;
52     this.Prescription = Prescription;
53 }
54
55 public NormalPatient(String gender, String paymentMethod, String diagnosis, String Prescription) {
56
57     this.gender = gender;
58     this.paymentMethod = paymentMethod;
59     this.diagnosis = diagnosis;
60     this.Prescription = Prescription;
61 }
62
63
64
65
66
67
68 public String getPrescription() {
69     return Prescription;
70 }
71
72
73
74 public void setPrescription(String Prescription) {
75     this.Prescription = Prescription;
76 }
```



```

80 public ArrayList<String> getSymptoms() {
81     return symptoms;
82 }
83
84
85
86 public void setSymptoms(String symptom) {
87     symptoms.add(symptom);
88 }
89
90
91
92 public String getGender() {
93     return gender;
94 }
95
96
97
98 public void setGender(String gender) {
99     this.gender = gender;
100 }
101
102
103
104 public String getPaymentMethod() {
105     return paymentMethod;
106 }
107
108
109
110 public void setPaymentMethod(String paymentMethod) {
111     this.paymentMethod = paymentMethod;
112 }
113
114
115
116 public String getDiagnosis() {
117     return diagnosis;
118 }

```

```

106
107
108
109
110 public void setPaymentMethod(String paymentMethod) {
111     this.paymentMethod = paymentMethod;
112 }
113
114
115
116 public String getDiagnosis() {
117     return diagnosis;
118 }
119
120
121
122 public void setDiagnosis(String diagnosis) {
123     this.diagnosis = diagnosis;
124 }
125
126
127 @Override
128 public String toString() {
129     return "Name: " + getName() + ", gender=" + gender + ", symptoms=" + symptoms + ", paymentMethod=" + paymentMethod + ", diagnosis=" + diagnosis + ", Prescription=" + Pr
130 }

```

## 2.4 EmergencyPatient Class

We then created EmergencyPatient class which is subclass of NormalPatient class but we added an extra attribute which was required by major task pdf and it is roomNo. We wrote its setters, getters, constructors and toString method.

```
5 package com.mycompany.healthcaremanagementsystem;
6
7 /**
8  *
9  * @author Jumana
10 */
11 public class EmergencyPatient extends NormalPatient {
12     private String roomNo;
13
14     public EmergencyPatient(String roomNo, String name, String nationalID, String phoneNumber, int salary, String address) {
15         super(name, nationalID, phoneNumber, salary, address);
16         this.roomNo = roomNo;
17     }
18
19     public EmergencyPatient() {
20     }
21
22     public EmergencyPatient(String roomNo, String gender, String paymentMethod, String diagnosis, String Prescription, String name, String nationalID, String phoneNumber, int salary, String address) {
23         super(gender, paymentMethod, diagnosis, Prescription, name, nationalID, phoneNumber, salary, address);
24         this.roomNo = roomNo;
25     }
26
27
28
29     public String getRoomNo() {
30         return roomNo;
31     }
32
33     public void setRoomNo(String roomNo) {
34         this.roomNo = roomNo;
35     }
36
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```

Then we created the Nurse class which is a subclass of Human class we added extra attributes like department, yearsOfExp and the room the nurse is assigned to. We wrote it's setters, getters, constructors and toString method.

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```

```
public String getDepartment() {  
    return department;  
}  
  
public void setDepartment(String department) {  
    this.department = department;  
}  
  
public int getYearsOfExp() {  
    return yearsOfExp;  
}
```

```
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```

```
public void setYearsOfExp(int yearsOfExp) {  
    this.yearsOfExp = yearsOfExp;  
}  
  
public String getRoom() {  
    return room;  
}  
  
public void setRoom(String room) {  
    this.room = room;  
}
```

## 2.6 Hospital Class

```
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```

```
package com.mycompany.healthcaremanagementsystem;  
  
/**  
 *  
 * @author Jumana  
 */  
  
import java.util.ArrayList;  
import java.util.List;  
import java.util.Scanner;  
  
public class Hospital {  
    private String name;  
    private String address;  
  
    private static ArrayList<String> AvailableDepts= new ArrayList<String>();  
  
    static List<Doctor> doctorslist = new ArrayList<Doctor> ();  
    static List<Nurse> nurseslist = new ArrayList<Nurse> ();  
  
    static List<NormalPatient> normalpatientslist = new ArrayList<NormalPatient> ();  
    static List<EmergencyPatient> emergencypatientslist = new ArrayList<EmergencyPatient> ();  
  
    public Hospital() {  
    }  
  
    public Hospital(String name, String address) {  
        this.name = name;  
        this.address = address;  
    }  
}
```

Then we created Hospital class which will be superclass of Admin class. It contains its name, address and array lists of: the available departments in the hospital AvailableDepts, doctors, nurses and both normal and emergency patients and it contains methods required in pdf and their functionalities using for loops to access each array list.

```
43  
44 public String getName() {  
45     return name;  
46 }  
47  
48  
49  
50  
51  
52 public void setName(String name) {  
53     this.name = name;  
54 }  
55  
56  
57  
58  
59  
60 public String getAddress() {  
61     return address;  
62 }  
63  
64  
65  
66  
67  
68 public void setAddress(String address) {  
69     this.address = address;  
70 }  
71  
72  
73  
74  
75  
76 public void getAvailableDepts() {  
77     for (int i=0; i< AvailableDepts.size(); i++){  
78         System.out.println(AvailableDepts.get(i) + " ");  
79     }  
80 }  
81
```

```
85  
86 public void setAvailableDepts(String s) {  
87     AvailableDepts.add(s);  
88 }  
89  
90  
91  
92  
93  
94  
95  
96 public static void displayDoctors() {  
97     for(int i = 0; i < doctorslist.size(); i++){  
98  
99         System.out.println(doctorslist.get(i).toString());  
100     }  
101 }  
102  
103  
104  
105  
106  
107 public static void addDoctor (String name, String nationalID, String phoneNumber, int salary, String address, String Department, String Specialization, int yearsOfExp )  
108     doctorslist.add(new Doctor(name, nationalID,  phoneNumber, salary, address , Department,  Specialization, yearsOfExp));  
109 }  
110  
111  
112  
113  
114 public static void displayNormalPatients() {  
115     for(int i = 0; i < normalpatientslist.size(); i++){  
116         System.out.println(normalpatientslist.get(i)+ " ");  
117     }  
118 }  
119
```

```

123
124
125 public static void addNormalPatient(String gender, String paymentMethod, String diagnosis, String Prescription, String name, String nationalID, String phoneNumber, int
126     normalpatientslist.add(new NormalPatient(gender, paymentMethod, diagnosis, Prescription, name, nationalID, phoneNumber, salary, address));
127
128
129
130
131 public static void displayEmergencyPatients() {
132     for(int i = 0; i < emergencypatientslist.size(); i++){
133         System.out.println(emergencypatientslist.get(i)+ " ");
134     }
135
136
137
138
139
140 public static void addEmergencyPatient(String roomNo, String gender, String paymentMethod, String diagnosis, String Prescription, String name, String nationalID, String
141     emergencypatientslist.add(new EmergencyPatient( roomNo, name, nationalID, phoneNumber, salary, address));
142
143
144
145
146
147
148 public static void displayNurses() {
149     for(int i = 0; i < nurseslist.size(); i++){
150         System.out.println(nurseslist.get(i)+ " ");
151     }
152
153
154 public static void addNurse (String name, String nationalID, String phoneNumber, int salary, String address, String department, int yearsOfExp, String room ) {
155     nurseslist.add(new Nurse( department, yearsOfExp, room, name, nationalID, phoneNumber, salary, address));
156
157
158

```

```

165
166
167
168
169 public static void deleteDoctor (String ID){
170     for (int i=0 ; i< doctorslist.size(); i++){
171         if (doctorslist.get(i).getNationalID().equals(ID)){
172             doctorslist.remove(i);
173         }
174     }
175
176
177 public static void deleteNurse (String ID){
178     for (int i=0 ; i< nurseslist.size(); i++){
179         if (nurseslist.get(i).getNationalID().equals(ID)){
180             nurseslist.remove(i);
181         }
182     }
183
184
185 public static void deleteNormalPatient (String ID){
186     for (int i=0 ; i< normalpatientslist.size(); i++){
187         if (normalpatientslist.get(i).getNationalID().equals(ID)){
188             normalpatientslist.remove(i);
189         }
190     }
191
192
193 public static void deleteEmergencyPatient (String ID){
194     for (int i=0 ; i< emergencypatientslist.size(); i++){
195         if (emergencypatientslist.get(i).getNationalID().equals(ID)){
196             emergencypatientslist.remove(i);
197         }
198     }
199
200

```

```

203 public static void setAppointment (NormalPatient p ) {
204
205     System.out.println("Please choose which doctor you would like to see:");
206
207     for(int i = 0; i < doctorslist.size(); i++){
208         System.out.println((i+1)+" "+( doctorslist.get(i)).toStringDoctor()+ "\n");
209     }
210
211     while(1>=1) {
212         Scanner input= new Scanner(System.in);
213         int num= input.nextInt();
214         String bb = input.nextLine();
215
216
217         if (num> 0 && num<= doctorslist.size()) {
218             p.setAppointedDoctor(doctorslist.get(num-1).getName());
219             doctorslist.get(num-1).setAppointedPatient(p.getName());
220             break;
221         }
222         else
223         {
224             System.out.println("Sorry, your choice is not valid please choose again");
225         }
226     }
227 }
228

```

```

229 public static void editDoctor (Doctor d){
230     System.out.println("Choose the attribute you want to edit: 1) name 2) national ID \n"
231         + "3) phone number 4) salary 5) address 6) department \n"
232         + "7) specialization 8) years of experience");
233
234     Scanner input = new Scanner (System.in);
235     int x = input.nextInt();
236     String abc = input.nextLine();
237
238     switch(x){
239         case 1:
240             System.out.println("Please insert the new name ");
241             String a= input.nextLine();
242             d.setName(a);
243             break;
244         case 2:
245             System.out.println("Please insert the new national ID ");
246             String b= input.nextLine();
247             d.setNationalID(b);
248             break;
249         case 3:
250             System.out.println("Please insert the new phone number ");
251             String c= input.nextLine();
252             d.setPhoneNumber(c);
253             break;
254         case 4:
255             System.out.println("Please insert the new salary ");
256             int e= input.nextInt();
257             String bbb = input.nextLine();
258             d.setSalary(e);
259             break;
260         case 5:
261             System.out.println("Please insert the new address ");
262             String f= input.nextLine();
263             d.setAddress(f);
264             break;

```

```

265         case 6:
266             System.out.println("Please insert the new department ");
267             String g= input.nextLine();
268             d.setDepartment(g);
269             break;
270         case 7:
271             System.out.println("Please insert the new Specialization ");
272             String h= input.nextLine();
273             d.setSpecialization(h);
274             break;
275         case 8:
276             System.out.println("Please insert the new number of years of experience ");
277             int i= input.nextInt();
278             String bbbb = input.nextLine();
279             d.setYearsOfExp(i);
280             break;
281     }
282 }
283
284
285
286
287 //nurse
288
289 public static void editNurse (Nurse n){
290     System.out.println(" Choose the attribute you want to edit: 1) name 2) national ID \n"
291         + "3) phone number 4) salary 5) address 6) department \n"
292         + "7) years of experience 8) room");
293
294     Scanner input = new Scanner (System.in);
295     int x = input.nextInt();
296     String abcc = input.nextLine();
297
298     switch(x){
299         case 1:
300             System.out.println("Please insert the new name ");
301             String a= input.nextLine();
302             n.setName(a);
303             break;

```

```

304         case 2:
305             System.out.println("Please insert the new national ID ");
306             String b= input.nextLine();
307             n.setNationalID(b);
308             break;
309         case 3:
310             System.out.println("Please insert the new phone number ");
311             String c= input.nextLine();
312             n.setPhoneNumber(c);
313             break;
314         case 4:
315             System.out.println("Please insert the new salary ");
316             int e= input.nextInt();
317             String cc = input.nextLine();
318             n.setSalary(e);
319             break;
320         case 5:
321             System.out.println("Please insert the new address ");
322             String f= input.nextLine();
323             n.setAddress(f);
324             break;
325         case 6:
326             System.out.println("Please insert the new department ");
327             String g= input.nextLine();
328             n.setDepartment(g);
329             break;
330         case 7:
331             System.out.println("Please insert the new number of years of experience ");
332             int h= input.nextInt();
333             String ccc = input.nextLine();
334             n.setYearsOfExp(h);
335             break;
336         case 8:
337             System.out.println("Please insert the new room ");
338             String i= input.nextLine();
339             n.setRoom(i);
340             break;
341     }
342 }
343

```

```

346 // patient
347
348 public static void editNormalPatient (NormalPatient p){
349     System.out.println("Choose the attribute you want to edit: 1) name 2) national ID \n"
350         + "3) phone number 4) salary 5) address 6) symptoms \n"
351         + "7) payment method 8) diagnosis 9) prescription ");
352
353     Scanner input = new Scanner (System.in);
354     int x = input.nextInt();
355     String cccc = input.nextLine();
356
357     switch(x){
358     case 1:
359         System.out.println("Please insert the new name ");
360         String a= input.nextLine();
361         p.setName(a);
362         break;
363     case 2:
364         System.out.println("Please insert the new national ID ");
365         String b= input.nextLine();
366         p.setNationalID(b);
367         break;
368     case 3:
369         System.out.println("Please insert the new phone number ");
370         String c= input.nextLine();
371         p.setPhoneNumber(c);
372         break;
373     case 4:
374         System.out.println("Please insert the new salary ");
375         int e= input.nextInt();
376         String ccccc = input.nextLine();
377         p.setSalary(e);
378         break;
379     case 5:
380         System.out.println("Please insert the new address ");
381         String f= input.nextLine();
382         p.setAddress(f);
383         break;
384     case 6:
385         System.out.println("Please insert the number of symptoms then insert the new symptoms ");
386         int numofsymp = input.nextInt();
387         String ccccc = input.nextLine();
388         for (int i=0; i< numofsymp; i++){
389             String g= input.nextLine();
390             p.getSymptoms().set(i, g);
391         }
392         break;
393     case 7:
394         System.out.println("Please insert the new payment method ");
395         String h= input.nextLine();
396         p.setPaymentMethod(h);
397         break;
398     case 8:
399         System.out.println("Please insert the new diagnosis ");
400         String i= input.nextLine();
401         p.setDiagnosis(i);
402         break;
403     case 9:
404         System.out.println("Please insert the new prescription ");
405         String j= input.nextLine();
406         p.setPrescription(j);
407         break;
408     }
409 }
410
411 // Emergency patient
412
413 public static void editEmergencyPatient (EmergencyPatient p){
414     System.out.println("Choose the attribute you want to edit: 1) name 2) national ID \n"
415         + "3) phone number 4) salary 5) address 6) symptoms \n "
416         + "7) payment method 8) diagnosis 9) prescription 10) room ");
417

```



```

421 Scanner input = new Scanner (System.in);
422 int x = input.nextInt();
423 String ccccccc = input.nextLine();
424
425
426 switch(x) {
427     case 1:
428         System.out.println("Please insert the new name ");
429         String a= input.nextLine();
430         p.setName(a);
431         break;
432     case 2:
433         System.out.println("Please insert the new national ID ");
434         String b= input.nextLine();
435         p.setNationalID(b);
436         break;
437     case 3:
438         System.out.println("Please insert the new phone number ");
439         String c= input.nextLine();
440         p.setPhoneNumber(c);
441         break;
442     case 4:
443         System.out.println("Please insert the new salary ");
444         int e= input.nextInt();
445         String cccccccc = input.nextLine();
446         p.setSalary(e);
447         break;
448     case 5:
449         System.out.println("Please insert the new address ");
450         String f= input.nextLine();
451         p.setAddress(f);
452         break;
453     case 6:
454         System.out.println("Please insert the number of symptoms then insert the new symptoms ");
455         int numofsymp = input.nextInt();
456         String abcccc = input.nextLine();

```

```

453     case 6:
454         System.out.println("Please insert the number of symptoms then insert the new symptoms ");
455         int numofsymp = input.nextInt();
456         String abcccc = input.nextLine();
457         for (int i=0; i< numofsymp; i++){
458
459             String g= input.nextLine();
460             p.getSymptoms().set(i, g);
461         }
462         break;
463     case 7:
464         System.out.println("Please insert the new payment method ");
465         String h= input.nextLine();
466         p.setPaymentMethod(h);
467         break;
468
469     case 8:
470         System.out.println("Please insert the new diagnosis ");
471         String i= input.nextLine();
472         p.setDiagnosis(i);
473         break;
474     case 9:
475         System.out.println("Please insert the new prescription ");
476         String j= input.nextLine();
477         p.setPrescription(j);
478         break;
479
480     case 10:
481         System.out.println("Please insert the new room ");
482         String k= input.nextLine();
483         p.setRoomNo(k);
484         break;
485
486 }
487
488
489
490

```

## 2.7 Admin Class

Then we created Admin class which extends Hospital class and inherits all its methods which were required in major task pdf. We created its setters, getters, constructors and a login method which will allow the admin entry only if username and password are correct.

```
5 package com.mycompany.healthcaremanagementsystem;
6
7 import java.util.Scanner;
8 import static javafx.application.Platform.exit;
9
10 /**
11  *
12  * @author Jumana
13  */
14 public class Admin extends Hospital {
15     private static String username;
16     private static String password;
17     public Admin() {
18     }
19
20
21     public Admin(String username, String password) {
22         this.username = username;
23         this.password = password;
24     }
25
26
27     public static String getUsername() {
28         return username;
29     }
30
31     public static void setUsername(String username) {
32         Admin.username = username;
33     }
34
35     public static String getPassword() {
36         return password;
37     }
38
39     public static void setPassword(String password) {
40         Admin.password = password;
41     }
42
43     public static void login() {
44
45         Scanner input = new Scanner(System.in);
46         System.out.println("Please insert your username");
47         username = input.nextLine();
48         setUsername(username);
49
50         System.out.println("Please insert your password");
51         password = input.nextLine();
52         setPassword(password);
53
54         if (username.equals("admin") && password.equals("admin")) {
55
56             System.out.println("Login successful");
57         }
58         else {
59             System.out.println("IncorrectUsername or Password");
60             System.exit(1);
61         }
62     }
63 }
64
65
```

## 2.8 HealthCareManagementSystem Class(Main Class)

Finally we created our main class in which we wrote a switch case which contains all the things the admin can do for the admin to choose from if he enters the username and password right. We added a few references first to be able to test our cases.

```
6 package com.mycompany.healthcaremanagementsystem;
7
8 import java.util.Scanner;
9
10 /**
11  *
12  * @author Jumana
13  */
14 public class HealthcareManagementSystem {
15
16     public static void main(String[] args) {
17
18         Admin.addDoctor("Dr. Maria","1234567890","987654321",10000,"California","Neurology", "Brain Surgery",10 );
19         Admin.addDoctor("Dr. Steph","846436537","43735338363",11000,"Berlin","Pediatrics", "cardiology",10 );
20         Admin.addDoctor("Dr. Hans","45676543","376438773663",9000,"Barcelona","Surgery", "urology",10 );
21
22         Admin.addNormalPatient("female", "visa", "flu", "panadol", "Sarah", "234567654", "4575686476", 5000, "Seattle");
23         Admin.addNormalPatient("female", "cash", "flu", "augmentin", "Debby", "15315121542", "2626541125", 4582, "Berlin");
24         Admin.addNormalPatient("male", "visa", "cold", "adol", "Josh", "2515615615", "5512165152", 5465, "Cairo");
25
26
27         Admin.addNurse("Aliyah","6346734643", "736747792683", 3500, "pediatrics", "cardiology", 4, "452A" );
28         Admin.addNurse("John","345678", "42121541215121",4500 , "neurology", "brain surgery", 6, "256B" );
29         Admin.addNurse("Ashton","8364836493", "94749374937", 4500, "surgery", "neurology", 7, "462B" );
30
31         Admin.addEmergencyPatient("451A","female", "visa", "internal bleeding", "panadol", "Timmy", "789654", "45632145632", 5700, "Seattle");
32         Admin.addEmergencyPatient("512B", "female", "cash", "concussion", "adol", "Ramal", "412596", "123654789", 4500, "Berlin");
33         Admin.addEmergencyPatient("152A", "male", "visa", "covid-19", "panadol", "Harry", "369874", "4569821032", 5600, "Cairo");
34
35
36         Admin.login();
37         System.out.println("Enter the number of one of the options below"
38
39         +"\n 1.Add Doctor"
40         +"\n 2.Add Patient"
41         +"\n 3.Add Nurse"
42         +"\n 4.Edit existing Doctor"
43         +"\n 5.Edit existing Patient"
44         +"\n 6.Edit existing Nurse"
45         +"\n 7.Delete Doctor"
46         +"\n 8.Delete Patient"
47         +"\n 9.Delete Nurse"
48         +"\n 10. Display all Doctors"
49         +"\n 11. Display Normal Patient"
50         +"\n 12. Display Emergency Patient"
51         +"\n 13. Display all Nurses"
52         +"\n 14. Make appointment for Patient with Specific Doctor"
53         +"\n 15. Add Emergency Patient"
54         +"\n 16. Edit Emergency Patient"
55         +"\n 17. Delete Emergency Patient");
56         Scanner input= new Scanner (System.in);
57         int x=input.nextInt();
58         String a = input.nextLine();
59         switch(x)
60         {
61             case 1:
62                 System.out.println("please insert name ");
63                 String name = input.nextLine();
64                 System.out.println("please insert password ");
65                 String password = input.nextLine();
66                 Admin.addDoctor(name, password, " ", " ", " ", " ");
67             case 2:
68                 System.out.println("please insert name ");
69                 String name2 = input.nextLine();
70                 System.out.println("please insert age ");
71                 int age = input.nextInt();
72                 System.out.println("please insert gender ");
73                 String gender = input.nextLine();
74                 System.out.println("please insert insurance type ");
75                 String insurance = input.nextLine();
76                 System.out.println("please insert symptoms ");
77                 String symptoms = input.nextLine();
78                 System.out.println("please insert medication ");
79                 String medication = input.nextLine();
80                 Admin.addNormalPatient(name2, age, gender, insurance, symptoms, medication, " ", " ", " ");
81             case 3:
82                 System.out.println("please insert name ");
83                 String name3 = input.nextLine();
84                 System.out.println("please insert age ");
85                 int age2 = input.nextInt();
86                 System.out.println("please insert gender ");
87                 String gender2 = input.nextLine();
88                 System.out.println("please insert insurance type ");
89                 String insurance2 = input.nextLine();
90                 System.out.println("please insert symptoms ");
91                 String symptoms2 = input.nextLine();
92                 System.out.println("please insert medication ");
93                 String medication2 = input.nextLine();
94                 Admin.addNurse(name3, age2, gender2, insurance2, symptoms2, medication2, " ", " ");
95             case 4:
96                 System.out.println("please insert name ");
97                 String name4 = input.nextLine();
98                 System.out.println("please insert age ");
99                 int age3 = input.nextInt();
100                System.out.println("please insert gender ");
101                String gender3 = input.nextLine();
102                System.out.println("please insert insurance type ");
103                String insurance3 = input.nextLine();
104                System.out.println("please insert symptoms ");
105                String symptoms3 = input.nextLine();
106                System.out.println("please insert medication ");
107                String medication3 = input.nextLine();
108                Admin.addDoctor(name4, age3, gender3, insurance3, symptoms3, medication3, " ", " ");
109            case 5:
110                System.out.println("please insert name ");
111                String name5 = input.nextLine();
112                System.out.println("please insert age ");
113                int age4 = input.nextInt();
114                System.out.println("please insert gender ");
115                String gender4 = input.nextLine();
116                System.out.println("please insert insurance type ");
117                String insurance4 = input.nextLine();
118                System.out.println("please insert symptoms ");
119                String symptoms4 = input.nextLine();
120                System.out.println("please insert medication ");
121                String medication4 = input.nextLine();
122                Admin.addNormalPatient(name5, age4, gender4, insurance4, symptoms4, medication4, " ", " ");
123            case 6:
124                System.out.println("please insert name ");
125                String name6 = input.nextLine();
126                System.out.println("please insert age ");
127                int age5 = input.nextInt();
128                System.out.println("please insert gender ");
129                String gender5 = input.nextLine();
130                System.out.println("please insert insurance type ");
131                String insurance5 = input.nextLine();
132                System.out.println("please insert symptoms ");
133                String symptoms5 = input.nextLine();
134                System.out.println("please insert medication ");
135                String medication5 = input.nextLine();
136                Admin.addNurse(name6, age5, gender5, insurance5, symptoms5, medication5, " ", " ");
137            case 7:
138                System.out.println("please insert name ");
139                String name7 = input.nextLine();
140                System.out.println("please insert age ");
141                int age6 = input.nextInt();
142                System.out.println("please insert gender ");
143                String gender6 = input.nextLine();
144                System.out.println("please insert insurance type ");
145                String insurance6 = input.nextLine();
146                System.out.println("please insert symptoms ");
147                String symptoms6 = input.nextLine();
148                System.out.println("please insert medication ");
149                String medication6 = input.nextLine();
150                Admin.addDoctor(name7, age6, gender6, insurance6, symptoms6, medication6, " ", " ");
151            case 8:
152                System.out.println("please insert name ");
153                String name8 = input.nextLine();
154                System.out.println("please insert age ");
155                int age7 = input.nextInt();
156                System.out.println("please insert gender ");
157                String gender7 = input.nextLine();
158                System.out.println("please insert insurance type ");
159                String insurance7 = input.nextLine();
160                System.out.println("please insert symptoms ");
161                String symptoms7 = input.nextLine();
162                System.out.println("please insert medication ");
163                String medication7 = input.nextLine();
164                Admin.addNormalPatient(name8, age7, gender7, insurance7, symptoms7, medication7, " ", " ");
165            case 9:
166                System.out.println("please insert name ");
167                String name9 = input.nextLine();
168                System.out.println("please insert age ");
169                int age8 = input.nextInt();
170                System.out.println("please insert gender ");
171                String gender8 = input.nextLine();
172                System.out.println("please insert insurance type ");
173                String insurance8 = input.nextLine();
174                System.out.println("please insert symptoms ");
175                String symptoms8 = input.nextLine();
176                System.out.println("please insert medication ");
177                String medication8 = input.nextLine();
178                Admin.addNurse(name9, age8, gender8, insurance8, symptoms8, medication8, " ", " ");
179            case 10:
180                Admin.displayAllDoctors();
181            case 11:
182                Admin.displayNormalPatient();
183            case 12:
184                Admin.displayEmergencyPatient();
185            case 13:
186                Admin.displayAllNurses();
187            case 14:
188                Admin.makeAppointmentForPatientWithSpecificDoctor();
189            case 15:
190                Admin.addEmergencyPatient();
191            case 16:
192                Admin.editEmergencyPatient();
193            case 17:
194                Admin.deleteEmergencyPatient();
195        }
196    }
197 }
```

```

77     System.out.println("please insert years of experience");
78     int yearsOfExp = input.nextInt();
79     String aaaa = input.nextLine();
80     Admin.addDoctor( name, nationalID, phoneNumber, salary, address, department, specialization, yearsOfExp );
81     break;
82
83
84     case 2:
85         System.out.println("please insert name ");
86         String name1 = input.nextLine();
87         System.out.println("please insert national id");
88         String nationalid = input.nextLine();
89         System.out.println("please insert phone number");
90         String phoneno = input.nextLine();
91         System.out.println("please insert salary");
92         int salary1 = input.nextInt();
93         String aaaaa = input.nextLine();
94         System.out.println("please insert address");
95         String address1 = input.nextLine();
96         System.out.println("please insert gender ");
97         String gender = input.nextLine();
98         System.out.println("please insert payment method");
99         String payment = input.nextLine();
100        System.out.println("please insert years of diagnosis");
101        String diagnosis = input.nextLine();
102        System.out.println("please insert years of prescription");
103        String prescription = input.nextLine();
104        Admin.addNormalPatient(gender, payment, diagnosis, prescription, name1, nationalid, phoneno, salary1, address1);
105        break;
106
107    case 3:
108        System.out.println("please insert name ");
109        String name3 = input.nextLine();
110        System.out.println("please insert national id");
111        String nationalid2 = input.nextLine();
112        System.out.println("please insert phone number");
113        String phoneno2 = input.nextLine();
114        System.out.println("please insert salary");
115        int salary3 = input.nextInt();
116
117
118        System.out.println("please insert address");
119        String address3 = input.nextLine();
120        System.out.println("please insert department ");
121        String department2 = input.nextLine();
122        System.out.println("please insert room");
123        String room2 = input.nextLine();
124        System.out.println("please insert years of experience");
125        int yearsofexp11 = input.nextInt();
126        String aaaaaaa = input.nextLine();
127        Admin.addNurse(name3,nationalid2, phoneno2, salary3, address3, department2, yearsofexp11, room2 );
128        break;
129
130    case 4:
131        Admin.displayDoctors();
132        System.out.println("////////////////////////////////////////");
133        Admin.editDoctor(Hospital.doctorslist.get(0));
134        Admin.displayDoctors();
135        break;
136
137    case 5:
138        Admin.displayNormalPatients();
139        System.out.println("////////////////////////////////////////");
140        Admin.editNormalPatient(Hospital.normalpatientslist.get(0));
141        Admin.displayNormalPatients();
142        break;
143
144    case 6:
145        Admin.displayNurses();
146        System.out.println("////////////////////////////////////////");
147        Admin.editNurse(Hospital.nurseslist.get(0));
148        Admin.displayNurses();
149        break;
150
151    case 7:
152        Admin.displayDoctors();
153        System.out.println("////////////////////////////////////////");
154        System.out.println("please insert ID");
155        String id = input.nextLine();
156        Admin.deleteDoctor(id);
157        Admin.displayDoctors();
158        break;

```

```

159         case 8:
160             Admin.displayNormalPatients();
161             System.out.println("////////////////////////////////");
162             System.out.println("please insert ID");
163             String id1 = input.nextLine();
164             Admin.deleteNormalPatient(id1);
165             Admin.displayNormalPatients();
166             break;
167
168         case 9:
169             Admin.displayNurses();
170             System.out.println("////////////////////////////////");
171             System.out.println("please insert ID");
172             String id3 = input.nextLine();
173             Admin.deleteNurse(id3);
174             Admin.displayNurses();
175             break;
176
177         case 10:
178             Admin.displayDoctors();
179             break;
180
181         case 11:
182             Admin.displayNormalPatients();
183             break;
184
185         case 12:
186             Admin.displayEmergencyPatients();
187             break;
188
189         case 13:
190             Admin.displayNurses();
191             break;
192
193         case 14:
194             NormalPatient pp = new NormalPatient();
195             Admin.setAppointment(pp);
196             break;
197
198         case 15:
199             System.out.println("please insert name ");
200             String name2 = input.nextLine();
201             System.out.println("please insert national id");
202             String nationalid1 = input.nextLine();
203             System.out.println("please insert phone number");
204             String phoneno1 = input.nextLine();
205             System.out.println("please insert salary");
206             int salary2 = input.nextInt();
207             String aaaaaab = input.nextLine();
208
209             System.out.println("please insert address");
210             String address2 = input.nextLine();
211             System.out.println("please insert gender ");
212             String gender1 = input.nextLine();
213             System.out.println("please insert payment method");
214             String payment1 = input.nextLine();
215             System.out.println("please insert years of diagnosis");
216             String diagnosis1 = input.nextLine();
217             System.out.println("please insert years of prescription");
218             String prescription1 = input.nextLine();
219             System.out.println("please insert years room number");
220             String roomno = input.nextLine();
221             Admin.addEmergencyPatient(roomno, gender1, payment1, diagnosis1, prescription1, name2, nationalid1, phoneno1, salary2, address2);
222             break;
223         case 16:
224             Admin.displayEmergencyPatients();
225             System.out.println("////////////////////////////////");
226             Admin.editEmergencyPatient(Hospital.emergencypatientsList.get(0));
227             Admin.displayEmergencyPatients();
228             break;
229
230         case 17:
231             Admin.displayEmergencyPatients();
232             System.out.println("////////////////////////////////");
233             System.out.println("please insert ID");
234             String id2 = input.nextLine();
235             Admin.deleteEmergencyPatient(id2);
236             Admin.displayEmergencyPatients();
237             break;

```

## 3.0 Java Code Output

### 3.1 Case 1

```
--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
1
please insert name
maria
please insert national id
3456789
please insert phone number
3456789
please insert salary
34567890
please insert address
seattle
please insert department
cardiology
please insert specialization
heart surgery
please insert years of experience
7
-----
BUILD SUCCESS
```

### 3.2 Case 2

```
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
2
please insert name
steph
please insert national id
23456789
please insert phone number
23456789
please insert salary
23456789
please insert address
seattle
please insert gender
male
please insert payment method
visa
please insert years of diagnosis
seizure
please insert years of prescription
1
-----
BUILD SUCCESS
-----
```

## 3.3 Case 3

```
] --- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your Username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
3
please insert name
hannah
please insert national id
34567890
please insert phone number
34567890
please insert salary
34567890
please insert address
alabama
please insert department
neurology
please insert room
3456789
please insert years of experience
9
-----
BUILD SUCCESS
```

## 3.4 Case 4

```
] --- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
4
  Name: Dr. Maria,  NationalID: 1234567890Department: Neurology, Specialization: Brain Surgery, yearsOfExp: 10, AppointedPatient: null, Phone Number: 987654321, Salary: 10000, Address: California
  Name: Dr. Steph,  NationalID: 846436537Department: Pediatrics, Specialization: cardiology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 43735338363, Salary: 11000, Address: Berlin
  Name: Dr. Hans,  NationalID: 45676543Department: Surgery, Specialization: urology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 376438773663, Salary: 9000, Address: Barcelona
//////////
Choose the attribute you want to edit: 1) name 2) national ID
3) phone number 4) salary 5) address 6) department
7) specialization 8) years of experience
1
Please insert the new name
steph
  Name: steph,  NationalID: 1234567890Department: Neurology, Specialization: Brain Surgery, yearsOfExp: 10, AppointedPatient: null, Phone Number: 987654321, Salary: 10000, Address: California
  Name: Dr. Steph,  NationalID: 846436537Department: Pediatrics, Specialization: cardiology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 43735338363, Salary: 11000, Address: Berlin
  Name: Dr. Hans,  NationalID: 45676543Department: Surgery, Specialization: urology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 376438773663, Salary: 9000, Address: Barcelona
-----
BUILD SUCCESS
```

## 3.5 Case 5

```
Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----
--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
5
Name: Sarah, gender=female, symptoms=[], paymentMethod=visa, diagnosis=flu, Prescription=panadol, AppointedDoctor=null
Name: Debby, gender=female, symptoms=[], paymentMethod=cash, diagnosis=flu, Prescription=augmentin, AppointedDoctor=null
Name: Josh, gender=male, symptoms=[], paymentMethod=visa, diagnosis=cold, Prescription=adol, AppointedDoctor=null
////////////////////////////////////
Choose the attribute you want to edit: 1) name 2) national ID
3) phone number 4) salary 5) address 6) symptoms
7) payment method 8) diagnosis 9) prescription
1
Please insert the new name
Deborah
Name: Deborah, gender=female, symptoms=[], paymentMethod=visa, diagnosis=flu, Prescription=panadol, AppointedDoctor=null
Name: Debby, gender=female, symptoms=[], paymentMethod=cash, diagnosis=flu, Prescription=augmentin, AppointedDoctor=null
Name: Josh, gender=male, symptoms=[], paymentMethod=visa, diagnosis=cold, Prescription=adol, AppointedDoctor=null
-----
BUILD SUCCESS
```

## 3.6 Case 6

```
--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
6
Name: Aliyah,NationalID: 6346734643, Phone Number: 736747792683, Salary: 3500, Address: pediatricsdepartment=cardiology, yearsOfExp=4, room=452A)
Name: John,NationalID: 345678, Phone Number: 42121541215121, Salary: 4500, Address: neurologydepartment=brain surgery, yearsOfExp=6, room=256B)
Name: Ashton,NationalID: 8364836493, Phone Number: 94749374937, Salary: 4500, Address: surgerydepartment=neurology, yearsOfExp=7, room=462B)
////////////////////////////////////
Choose the attribute you want to edit: 1) name 2) national ID
3) phone number 4) salary 5) address 6) department
7) years of experience 8) room
4
Please insert the new salary
12345
Name: Aliyah,NationalID: 6346734643, Phone Number: 736747792683, Salary: 12345, Address: pediatricsdepartment=cardiology, yearsOfExp=4, room=452A)
Name: John,NationalID: 345678, Phone Number: 42121541215121, Salary: 4500, Address: neurologydepartment=brain surgery, yearsOfExp=6, room=256B)
Name: Ashton,NationalID: 8364836493, Phone Number: 94749374937, Salary: 4500, Address: surgerydepartment=neurology, yearsOfExp=7, room=462B)
-----
BUILD SUCCESS
```



## 3.7 Case 7

```
cd C:\Users\Jumana\Desktop\Adv prog major task\com.mycompany.healthcaremanagementsystem_healthcaremanagementsystem_jar_1.0-SNAPSHOT; JAVA_HOME=C:\Program Files\Java\jdk1.8.0_204 cmd /c "C:\Program Files\NetBeans\NetBeans.exe"
Running NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency projects (with Compile on Save turned on) will be used instead of their jar artifacts.
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
] Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

] --- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
7
Name: Dr. Maria, NationalID: 1234567890Department: Neurology, Specialization: Brain Surgery, yearsOfExp: 10, AppointedPatient: null, Phone Number: 987654321, Salary: 10000, Address: California
Name: Dr. Steph, NationalID: 846436537Department: Pediatrics, Specialization: cardiology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 43735338363, Salary: 11000, Address: Berlin
Name: Dr. Hans, NationalID: 45676543Department: Surgery, Specialization: urology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 376438773663, Salary: 9000, Address: Barcelona
////////////////////////////////////
please insert ID
1234567890
Name: Dr. Steph, NationalID: 846436537Department: Pediatrics, Specialization: cardiology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 43735338363, Salary: 11000, Address: Berlin
Name: Dr. Hans, NationalID: 45676543Department: Surgery, Specialization: urology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 376438773663, Salary: 9000, Address: Barcelona
-----
BUILD SUCCESS
```

## 3.8 Case 8

```
cd C:\Users\Jumana\Desktop\Adv prog major task\com.mycompany.healthcaremanagementsystem_healthcaremanagementsystem_jar_1.0-SNAPSHOT; JAVA_HOME=C:\Program Files\Java\jdk1.8.0_204 cmd /c "C:\Program Files\NetBeans\NetBeans.exe"
Running NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency projects (with Compile on Save turned on) will be used instead of their jar artifacts.
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
] Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
8
Name: Sarah, gender=female, symptoms=[], paymentMethod=visa, diagnosis=flu, Prescription=panadol, AppointedDoctor=null
Name: Debby, gender=female, symptoms=[], paymentMethod=cash, diagnosis=flu, Prescription=augmentin, AppointedDoctor=null
Name: Josh, gender=male, symptoms=[], paymentMethod=visa, diagnosis=cold, Prescription=adol, AppointedDoctor=null
////////////////////////////////////
please insert ID
234567654
Name: Debby, gender=female, symptoms=[], paymentMethod=cash, diagnosis=flu, Prescription=augmentin, AppointedDoctor=null
Name: Josh, gender=male, symptoms=[], paymentMethod=visa, diagnosis=cold, Prescription=adol, AppointedDoctor=null
-----
BUILD SUCCESS
```

## 3.9 Case 9

```
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
9
Name: Aliyah,NationalID: 6346734643, Phone Number: 736747792683, Salary: 3500, Address: pediatricsdepartment=cardiology, yearsOfExp=4, room=452A)
Name: John,NationalID: 345678, Phone Number: 42121541215121, Salary: 4500, Address: neurologydepartment=brain surgery, yearsOfExp=6, room=256B)
Name: Ashton,NationalID: 8364836493, Phone Number: 94749374937, Salary: 4500, Address: surgerydepartment=neurology, yearsOfExp=7, room=462B)
////////////////////////////////////
Please insert ID
345678
Name: Aliyah,NationalID: 6346734643, Phone Number: 736747792683, Salary: 3500, Address: pediatricsdepartment=cardiology, yearsOfExp=4, room=452A)
Name: Ashton,NationalID: 8364836493, Phone Number: 94749374937, Salary: 4500, Address: surgerydepartment=neurology, yearsOfExp=7, room=462B)
-----
BUILD SUCCESS
-----
```

## 3.10 Case 10

```
cd C:\Users\Jumana\Desktop\Adv prog major task\com.mycompany.healthcaremanagementsystem_HealthcareManagementSystem_jar_1.0-SNAPSHOT: "JAVA_HOME=C:\\Program Files\\Java\\jdk1.8.0_202" cmd /c "%C:\\Program Files\\NetBeans\\NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency projects (with Compile on Save turned on) will be used instead of their jar artifacts.
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
10
Name: Dr. Maria, NationalID: 1234567890Department: Neurology, Specialization: Brain Surgery, yearsOfExp: 10, AppointedPatient: null, Phone Number: 987654321, Salary: 10000, Address: California
Name: Dr. Steph, NationalID: 846436537Department: Pediatrics, Specialization: cardiology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 43735338363, Salary: 11000, Address: Berlin
Name: Dr. Hans, NationalID: 45676543Department: Surgery, Specialization: urology, yearsOfExp: 10, AppointedPatient: null, Phone Number: 376438773663, Salary: 9000, Address: Barcelona
-----
BUILD SUCCESS
-----
```

## 3.11 Case 11

```
cd C:\Users\Jumana\Desktop\Adv prog major task\com.mycompany.healthcaremanagementsystem_HealthcareManagementSystem_jar_1.0-SNAPSHOT; "JAVA_HOME=C:\\Program Files\\Java\\jdk1.8.0_202" cmd /c "%C:\\Program Files\\NetBeans-14\\n
Running NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency projects (with Compile on Save turned on) will be used instead of their jar artifacts.
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
] Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

] --- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
11
Name: Sarah, gender=female, symptoms=[], paymentMethod=visa, diagnosis=flu, Prescription=panadol, AppointedDoctor=null
Name: Debby, gender=female, symptoms=[], paymentMethod=cash, diagnosis=flu, Prescription=augmentin, AppointedDoctor=null
Name: Josh, gender=male, symptoms=[], paymentMethod=visa, diagnosis=cold, Prescription=adol, AppointedDoctor=null
-----
BUILD SUCCESS
```

## 3.12 Case 12

```
cd C:\Users\Jumana\Desktop\Adv prog major task\com.mycompany.healthcaremanagementsystem_HealthcareManagementSystem_jar_1.0-SNAPSHOT; "JAVA_HOME=C:\\Program Files\\Java\\jdk1.8.0_202" cmd /c "%C:\\Program Files\\NetBeans-14\\n
Running NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency projects (with Compile on Save turned on) will be used instead of their jar artifacts.
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
] Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

] --- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
12
Name=TimmyNational ID=789654phone number=45632145632Salary=5700Address=Seattlegender=female, symptoms=[], paymentMethod=visa, diagnosis=internal bleeding, Prescription=panadolroomNo=451A
Name= KamalNational ID=412596phone number=123654789Salary=4500Address=Berlingender=female, symptoms=[], paymentMethod=cash, diagnosis=concussion, Prescription=adolroomNo=512B
Name=HarryNational ID=369874phone number=4569821032Salary=5600Address=Cairogender=male, symptoms=[], paymentMethod=visa, diagnosis=covid-19, Prescription=panadolroomNo=152A
-----
BUILD SUCCESS
-----
```

## 3.13 Case 13

```
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
13
Name: Aliyah,NationalID: 6346734643, Phone Number: 736747792683, Salary: 3500, Address: pediatricsdepartment=cardiology, yearsOfExp=4, room=452A)
Name: John,NationalID: 345678, Phone Number: 42121541215121, Salary: 4500, Address: neurologydepartment=brain surgery, yearsOfExp=6, room=256B)
Name: Ashton,NationalID: 8364836493, Phone Number: 94749374937, Salary: 4500, Address: surgerydepartment=neurology, yearsOfExp=7, room=462B)
-----
BUILD SUCCESS
```

## 3.14 Case 14

```
cd C:\Users\Jumana\Desktop\Adv prog major task\com.mycompany.healthcaremanagementsystem_HealthcareManagementSystem_jar_1.0-SNAPSHOT; "JAVA_HOME=C:\\Program Files\\Java\\jdk1.8.0_202" cmd /c
Running NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency projects (with Compile on Save turned on) will be used instead of their jar artif.
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
14
Please choose which doctor you would like to see:
1)Doctor [ Name(): Dr. MariaDepartment: Neurology, Specialization: Brain Surgery, yearsOfExp: 10, AppointedPatient: null]

2)Doctor [ Name(): Dr. StephDepartment: Pediatrics, Specialization: cardiology, yearsOfExp: 10, AppointedPatient: null]

3)Doctor [ Name(): Dr. HansDepartment: Surgery, Specialization: urology, yearsOfExp: 10, AppointedPatient: null]

2
-----
BUILD SUCCESS
```

## 3.15 Case 15

```
cd C:\Users\Jumana\Desktop\Adv prog major task\com.mycompany.healthcaremanagementsystem_HealthcareManagementSystem_jar_1.0-SNAPSHOT; "JAVA_HOME=C:\Program Files\Java\jdk1.8.0_202"
Running NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency projects (with Compile on Save turned on) will be used instead of their ja:
Scanning for projects...

--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
15
please insert name
hala
please insert national id
3456789
please insert phone number
3456789
please insert salary
2345
please insert address
washington
please insert gender
female
please insert payment method
visa
```

## 3.16 Case 16

```
Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----

--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
Please insert your username
admin
Please insert your password
admin
Login successful
Enter the number of one of the options below
1.Add Doctor
2.Add Patient
3.Add Nurse
4.Edit existing Doctor
5.Edit existing Patient
6.Edit existing Nurse
7.Delete Doctor
8.Delete Patient
9.Delete Nurse
10. Display all Doctors
11. Display Normal Patient
12. Display Emergency Patient
13. Display all Nurses
14. Make appointment for Patient with Specific Doctor
15. Add Emergency Patient
16. Edit Emergency Patient
17. Delete Emergency Patient
16
Name=TimmyNational ID=789654phone number=45632145632Salary=5700Address=Seattlegender=female, symptoms=[], paymentMethod=visa, diagnosis=internal bleeding, Prescription=panadolroomNo=451A
Name= KamaNational ID=412596phone number=123654789Salary=4500Address=Berlingender=female, symptoms=[], paymentMethod=cash, diagnosis=concussion, Prescription=adolroomNo=512B
Name=HarryNational ID=369874phone number=4569821032Salary=5600Address=Cairogender=male, symptoms=[], paymentMethod=visa, diagnosis=covid-19, Prescription=panadolroomNo=152A
/////////////////////////////////
Choose the attribute you want to edit: 1) name 2) national ID
3) phone number 4) salary 5) address 6) symptoms
7) payment method 8) diagnosis 9) prescription 10) room
1
Please insert the new name
Thomas
Name=ThomasNational ID=789654phone number=45632145632Salary=5700Address=Seattlegender=female, symptoms=[], paymentMethod=visa, diagnosis=internal bleeding, Prescription=panadolroomNo=451A
Name= KamaNational ID=412596phone number=123654789Salary=4500Address=Berlingender=female, symptoms=[], paymentMethod=cash, diagnosis=concussion, Prescription=adolroomNo=512B
Name=HarryNational ID=369874phone number=4569821032Salary=5600Address=Cairogender=male, symptoms=[], paymentMethod=visa, diagnosis=covid-19, Prescription=panadolroomNo=152A
-----
BUILD SUCCESS
```

## 3.17 Case 17

```
cd C:\Users\Jumana\Desktop\adv prog major task\com.mycompany.healthcaremanagementsystem_healthcareManagementSystem_jar_1.0-SNAPSHOT; "JAVA_HOME=C:\Program Files\Java\jdk1.8.0_202" cmd /c "%C:\Program Files\NetBeans-14\bin\netbeans.exe" %*
Running NetBeans Compile On Save execution. Phase execution is skipped and output directories of dependency projects (with Compile on Save turned on) will be used instead of their jar artifacts.
Scanning for projects...
```

```
--< com.mycompany.healthcaremanagementsystem:HealthcareManagementSystem >--
Building HealthcareManagementSystem 1.0-SNAPSHOT
-----[ jar ]-----
```

```
--- exec-maven-plugin:3.0.0:exec (default-cli) @ HealthcareManagementSystem ---
```

```
Please insert your username
```

```
admin
```

```
Please insert your password
```

```
admin
```

```
Login successful
```

```
Enter the number of one of the options below
```

```
1.Add Doctor
```

```
2.Add Patient
```

```
3.Add Nurse
```

```
4.Edit existing Doctor
```

```
5.Edit existing Patient
```

```
6.Edit existing Nurse
```

```
7.Delete Doctor
```

```
8.Delete Patient
```

```
9.Delete Nurse
```

```
10. Display all Doctors
```

```
11. Display Normal Patient
```

```
12. Display Emergency Patient
```

```
13. Display all Nurses
```

```
14. Make appointment for Patient with Specific Doctor
```

```
15. Add Emergency Patient
```

```
16. Edit Emergency Patient
```

```
17. Delete Emergency Patient
```

```
17
```

```
Name=TimmyNational ID=789654phone number=45632145632Salary=5700Address=Seattlegender=female, symptoms=[], paymentMethod=visa, diagnosis=internal bleeding, Prescription=panadolroomNo=451A
```

```
Name=KamalNational ID=412596phone number=1236547895Salary=4500Address=Berlinlgender=female, symptoms=[], paymentMethod=cash, diagnosis=concussion, Prescription=adolroomNo=512B
```

```
Name=HarryNational ID=369874phone number=4569821032Salary=5600Address=Calrogender=male, symptoms=[], paymentMethod=visa, diagnosis=covid-19, Prescription=panadolroomNo=152A
```

```
////////////////////////////////////
```

```
please insert ID
```

```
789654
```

```
Name=KamalNational ID=412596phone number=1236547895Salary=4500Address=Berlinlgender=female, symptoms=[], paymentMethod=cash, diagnosis=concussion, Prescription=adolroomNo=512B
```

```
Name=HarryNational ID=369874phone number=4569821032Salary=5600Address=Calrogender=male, symptoms=[], paymentMethod=visa, diagnosis=covid-19, Prescription=panadolroomNo=152A
```

## 4.0 GUI

### 4.1 Login Page

```
5 package com.mycompany.healthcaremanagementsystem;
6
7 import javax.swing.JOptionPane;
8
9 /**
10  *
11  * @author Jumana
12  */
13 public class LoginPage extends javax.swing.JFrame {
14
15     /**
16      * Creates new form LoginPage
17      */
18     public LoginPage() {
19         initComponents();
20     }
21
22     /**
23      * This method is called from within the constructor to initialize the form.
24      * WARNING: Do NOT modify this code. The content of this method is always
25      * regenerated by the Form Editor.
26      */
27     @SuppressWarnings("unchecked")
28     // Generated Code
29
30     private void unActionPerformed(java.awt.event.ActionEvent evt) {
31         // TODO add your handling code here:
32     }
33
34     private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
35         String username = un.getText();
36         String password = pass.getText();
37
38         if (username.equals("admin") && password.equals("admin")){
39             MenuPage obj= new MenuPage();
40             obj.setVisible(true);
41             dispose();
42         }
43     }
44 }
```

```

81
82     if (username.equals("admin") && password.equals("admin")){
83         MenuPage obj= new MenuPage();
84         obj.setVisible(true);
85         dispose();
86     }
87
88     else{
89         JOptionPane.showMessageDialog(rootPane,"username or password is incorrect" );
90     }
91 }
92
93 /**
94  * @param args the command line arguments
95  */
96 public static void main(String args[]) {
97     /* Set the Nimbus look and feel */
98     Look and feel setting code (optional)
99
100
101     /* Create and display the form */
102     java.awt.EventQueue.invokeLater(new Runnable() {
103         public void run() {
104             new LoginPage().setVisible(true);
105         }
106     });
107 }
108
109 // Variables declaration - do not modify
110 private javax.swing.JButton jButton1;
111 private javax.swing.JLabel jLabel2;
112 private javax.swing.JLabel jLabel3;
113 private javax.swing.JLabel jLabel4;
114 private javax.swing.JPasswordField pass;
115 private javax.swing.JTextField un;
116 // End of variables declaration
117
118 }

```

As seen in the pictures above, we created the login page using java swing and JFrame methods on netbeans. The login page requests a username and password that should be correct to allow entry. After the admin enters the correct username and password he clicks on the OK button to go to the Menu page. This is the output of the code in the picture below.



GREY-SLOAN  
MEMORIAL  
HOSPITAL

Username

Password

OK

## 4.2 Menu Page

```
5 package com.mycompany.healthcaremanagementsystem;
6
7 /**
8  *
9  * @author Jumana
10  */
11 public class MenuPage extends javax.swing.JFrame {
12
13     /**
14      * Creates new form MenuPage
15      */
16     public MenuPage() {
17         initComponents();
18     }
19
20     /**
21      * This method is called from within the constructor to initialize the form.
22      * WARNING: Do NOT modify this code. The content of this method is always
23      * regenerated by the Form Editor.
24      */
25     @SuppressWarnings("unchecked")
26     Generated Code
27
28     private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
29         PatientForm obj = new PatientForm();
30         obj.setVisible(true);
31         dispose();
32     }
33
34     private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
35         TreatPatient obj = new TreatPatient();
36         obj.setVisible(true);
37         dispose();
38     }
39
40 }
```

```
private void jButton3ActionPerformed(java.awt.event.ActionEvent evt) {
    EmergencyPatientForm obj = new EmergencyPatientForm();
    obj.setVisible(true);
    dispose();
}

private void jButton5ActionPerformed(java.awt.event.ActionEvent evt) {
    Nursesrooms obj = new Nursesrooms();
    obj.setVisible(true);
    dispose();
}

private void jButton4ActionPerformed(java.awt.event.ActionEvent evt) {
    LoginPage obj = new LoginPage();
    obj.setVisible(true);
    dispose();
}

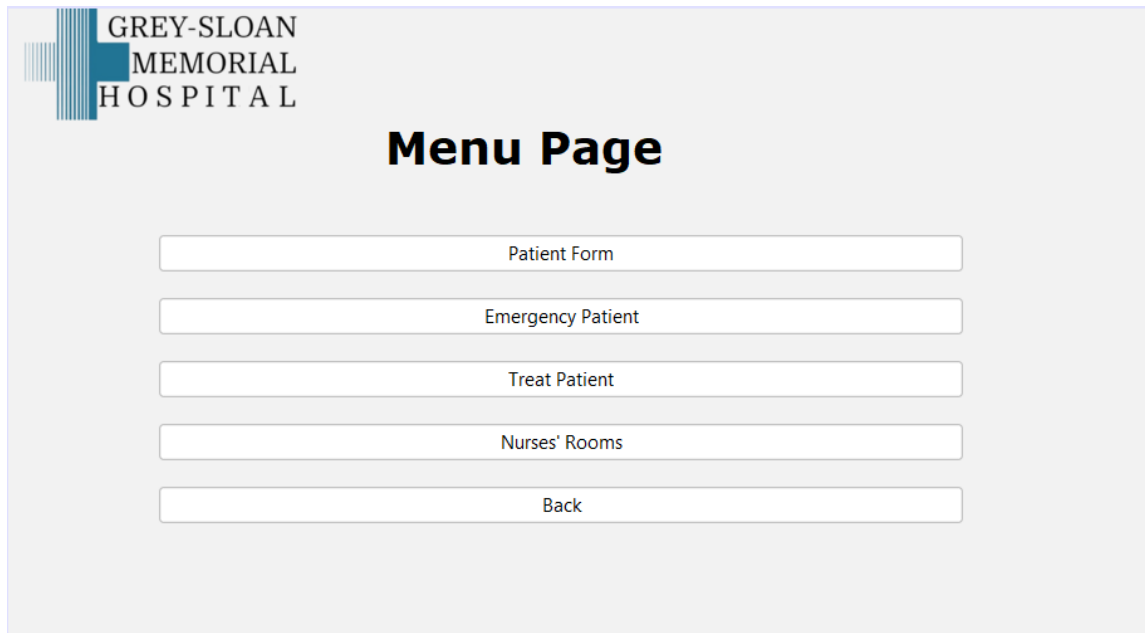
/**
 * @param args the command line arguments
 */
public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    Look and feel setting code (optional)

    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new MenuPage().setVisible(true);
        }
    });
}

// Variables declaration - do not modify
private javax.swing.JButton jButton1;
private javax.swing.JButton jButton2;
private javax.swing.JButton jButton3;
private javax.swing.JButton jButton4;
private javax.swing.JButton jButton5;
private javax.swing.JLabel jLabel1;
```



Then we created the Menu Page which allows the Admin 4 options, enter the Patient Form, enter the Emergency Patient page , enter Treat Patient page or the Nurses' Rooms page



### 4.3 Patient Form

```
5 package com.mycompany.healthcaremanagementsystem;
6
7
8 import java.awt.event.ActionEvent;
9 import java.awt.event.ActionListener;
10 import java.text.SimpleDateFormat;
11 import java.util.Date;
12 import javax.swing.JOptionPane;
13 import javax.swing.Timer;
14
15
16 /**
17  *
18  * @author Jumana
19  */
20 public class PatientForm extends javax.swing.JFrame {
21
22     /**
23      * Creates new form PatientForm
24      */
25     public PatientForm() {
26         initComponents();
27         showDate();
28         showTime();
29     }
30     void showDate(){
31         Date d=new Date();
32         SimpleDateFormat s=new SimpleDateFormat("yyyy-MM-dd");
33         datelab.setText(s.format(d));
34     }
35 }
```

```

36 void showTime() {
37     new Timer(0, new ActionListener() {
38         @Override
39         public void actionPerformed(ActionEvent e) {
40             Date d = new Date();
41             SimpleDateFormat s = new SimpleDateFormat("hh:mm:ss a");
42             timeLab.setText(s.format(d));
43             throw new UnsupportedOperationException("Not supported yet."); //To change body of generated methods, choose Tools | Templates.
44         }
45     }).start();
46 }
47
48 /**
49  * This method is called from within the constructor to initialize the form.
50  * WARNING: Do NOT modify this code. The content of this method is always
51  * regenerated by the Form Editor.
52  */
53
54 /**
55  * This method is called from within the constructor to initialize the form.
56  * WARNING: Do NOT modify this code. The content of this method is always
57  * regenerated by the Form Editor.
58  */
59 @SuppressWarnings("unchecked")
60 Generated Code
61
62 private void feverActionPerformed(java.awt.event.ActionEvent evt) {
63 }
64
65 private void migranesActionPerformed(java.awt.event.ActionEvent evt) {
66     // TODO add your handling code here:
67 }
68
69 private void highbpActionPerformed(java.awt.event.ActionEvent evt) {
70     // TODO add your handling code here:
71 }
72
73 private void pphonenoActionPerformed(java.awt.event.ActionEvent evt) {
74     // TODO add your handling code here:
75 }
76
77 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
78     Hospital.addNormalPatient(pgender.getText(), payment.getSelectedItem().toString(), null, null, pn.getText(), pnID.getText(), pphoneno.getText(), 0, paddress.getText());
79
80     pm.setText(payment.getSelectedItem().toString());
81     at.setText(app.getSelectedItem().toString());
82
83     for(int i=0; i< Hospital.normalpatientslist.size(); i++)
84     {
85         if(Hospital.normalpatientslist.get(i).getNationalID().equals(pnID.getText())){
86
87             if (fever.isSelected()){
88                 Hospital.normalpatientslist.get(i).setSymptoms("fever");
89             }
90             if (dizziness.isSelected()){
91                 Hospital.normalpatientslist.get(i).setSymptoms("dizziness");
92             }
93             if (sneezing.isSelected()){
94                 Hospital.normalpatientslist.get(i).setSymptoms("sneezing");
95             }
96             if (coughing.isSelected()){
97                 Hospital.normalpatientslist.get(i).setSymptoms("coughing");
98             }
99             if (lowbp.isSelected()){
100                 Hospital.normalpatientslist.get(i).setSymptoms("low blood pressure");
101             }
102             if (highbp.isSelected()){
103                 Hospital.normalpatientslist.get(i).setSymptoms("high blood pressure");
104             }
105             if (migranes.isSelected()){
106                 Hospital.normalpatientslist.get(i).setSymptoms("migranes");
107             }
108             if (vomitting.isSelected()){
109                 Hospital.normalpatientslist.get(i).setSymptoms("vomitting");
110             }
111         }
112     }
113
114     JOptionPane.showMessageDialog(rootPane, "Patient Name: " + pn.getText() + "\nNational ID: " + pnID.getText() + "\n Appointed Doctor: " + doc.getSelectedItem().toString() + "\n");
115 }

```

```
411 private void pmActionPerformed(java.awt.event.ActionEvent evt) {  
412     // TODO add your handling code here:  
413 }
```

```
414 private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {  
415     MenuPage obj = new MenuPage();  
416     obj.setVisible(true);  
417     dispose();  
418 }
```

```
419  
420 /**  
421  * @param args the command line arguments  
422  */  
423 public static void main(String args[]) {  
424     /* Set the Nimbus look and feel */  
425     Look and feel setting code (optional)  
426  
427     /* Create and display the form */  
428     java.awt.EventQueue.invokeLater(new Runnable() {  
429         public void run() {  
430             new PatientForm().setVisible(true);  
431         }  
432     });  
433 }
```

```
434  
435 // Variables declaration - do not modify  
436 private javax.swing.JComboBox<String> app;  
437 private javax.swing.JTextField at;  
438 private javax.swing.JTextField cd;  
439 private javax.swing.JCheckBox coughing;  
440 private javax.swing.JLabel datelab;  
441 private javax.swing.JCheckBox dizziness;  
442 private javax.swing.JComboBox<String> doc;  
443 private javax.swing.JCheckBox fever;  
444 private javax.swing.JCheckBox highbp;  
445 private javax.swing.JButton jButton1;  
446 private javax.swing.JButton jButton2;  
447 private javax.swing.JLabel jLabel1;  
448 private javax.swing.JLabel jLabel10;  
449 private javax.swing.JLabel jLabel2;
```

```
450 private javax.swing.JLabel jLabel3;  
451 private javax.swing.JLabel jLabel4;  
452 private javax.swing.JLabel jLabel5;  
453 private javax.swing.JLabel jLabel6;  
454 private javax.swing.JLabel jLabel7;  
455 private javax.swing.JLabel jLabel8;  
456 private javax.swing.JLabel jLabel9;  
457 private javax.swing.JCheckBox lowbp;  
458 private javax.swing.JCheckBox migranes;  
459 private javax.swing.JTextField paddress;  
460 private javax.swing.JComboBox<String> payment;  
461 private javax.swing.JTextField pgender;  
462 private javax.swing.JTextField pm;  
463 private javax.swing.JLabel pmmun;  
464 private javax.swing.JTextField pn;  
465 private javax.swing.JTextField pnID;  
466 private javax.swing.JTextField pphoneno;  
467 private javax.swing.JCheckBox sneezing;  
468 private javax.swing.JLabel timelab;  
469 private javax.swing.JCheckBox vomitting;  
470 // End of variables declaration  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491 }
```

The Patient Form allows the admin set an appointment for the patient and of course enter the NormalPatient class attributes need to be filled. The picture below is the output of the code.

**GREY-SLOAN MEMORIAL HOSPITAL**

Date: Time:

## Patient Form

Name:  Phone Number:

National ID:  Symptoms: ☐ fever ☐ dizziness

Gender:  ☐ sneezing ☐ coughing

Address:  ☐ low BP ☐ high BP

Payment Method: Cash  ☐ migranes ☐ vomitting

Choose Doctor: Dr. Meredith Grey

Appointment Time: 9:00 am

Submit Back

## 4.4 Emergency Patient

```

5 package com.mycompany.healthcaremanagementsystem;
6
7
8 import java.awt.event.ActionEvent;
9 import java.awt.event.ActionListener;
10 import java.text.SimpleDateFormat;
11 import java.util.Date;
12 import javax.swing.JOptionPane;
13 import javax.swing.Timer;
14
15 /**
16  *
17  * @author Jumana
18  */
19 public class EmergencyPatientForm extends javax.swing.JFrame {
20
21     /**
22      * Creates new form EmergencyPatientForm
23      */
24     public EmergencyPatientForm() {
25         initComponents();
26         showDate();
27         showTime();
28     }
29     void showDate() {
30         Date d=new Date();
31         SimpleDateFormat s=new SimpleDateFormat("yyyy-MM-dd");
32         datelab.setText(s.format(d));
33     }
34

```

```

35 void showTime() {
36     new Timer(0, new ActionListener() {
37         @Override
38         public void actionPerformed(ActionEvent e) {
39             Date d = new Date();
40             SimpleDateFormat s = new SimpleDateFormat("hh:mm:ss a");
41             timelab.setText(s.format(d));
42             throw new UnsupportedOperationException("Not supported yet."); //To change body of generated methods, choose Tools | Templates.
43         }
44     }).start();
45 }
46
47 /*
48  * This method is called from within the constructor to initialize the form.
49  * WARNING: Do NOT modify this code. The content of this method is always
50  * regenerated by the Form Editor.
51  */
52 @SuppressWarnings("unchecked")
53 Generated Code
319
320 private void pmActionPerformed(java.awt.event.ActionEvent evt) {
321     // TODO add your handling code here:
322 }
323
324 private void coughingbloodActionPerformed(java.awt.event.ActionEvent evt) {
325     // TODO add your handling code here:
326 }
327
328 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
329     EmergencyPatient p;
330     Hospital.addEmergencyPatient(procmno.getText(), pgender.getText(), payment.getSelectedItems().toString(), null, null, pn.getText(), pnID.getText(), pphoneno.getText(), 0, p
331     cd.setText( doc.getSelectedItems().toString());
332     pm.setText( payment.getSelectedItems().toString());
333
334     for(int i=0; i< Hospital.emergencypatientslist.size(); i++)
335     {
336         if(Hospital.emergencypatientslist.get(i).getNationalID().equals(kjhg5.getText())){
337
338             if (concussion.isSelected()){
339                 Hospital.emergencypatientslist.get(i).setSymptoms("fever");
340             }
341             if (covid19.isSelected()){
342                 Hospital.emergencypatientslist.get(i).setSymptoms("dizziness");
343             }
344             if (impairedvision.isSelected()){
345                 Hospital.emergencypatientslist.get(i).setSymptoms("sneezing");
346             }
347             if (internalbleeding.isSelected()){
348                 Hospital.emergencypatientslist.get(i).setSymptoms("coughing");
349             }
350             if (seizure.isSelected()){
351                 Hospital.emergencypatientslist.get(i).setSymptoms("low blood pressure");
352             }
353             if (coughingblood.isSelected()){
354                 Hospital.emergencypatientslist.get(i).setSymptoms("high blood pressure");
355             }
356             if (chesttightness.isSelected()){
357                 Hospital.emergencypatientslist.get(i).setSymptoms("migranes");
358             }
359         }
360     }
361 }
362
363 JOptionPane.showMessageDialog(rootPane, "Patient Name: " + pn.getText() + "\nNational ID: " + pnID.getText() + "\n\n Data has been submitted successfully ");

```

```

367 private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
368     MenuPage obj = new MenuPage();
369     obj.setVisible(true);
370     dispose();
371 }
372
373 /**
374  * @param args the command line arguments
375  */
376 public static void main(String args[]) {
377     /* Set the Nimbus look and feel */
378     Look and feel setting code (optional)
379
380     /* Create and display the form */
381     java.awt.EventQueue.invokeLater(new Runnable() {
382         public void run() {
383             new EmergencyPatientForm().setVisible(true);
384         }
385     });
386 }
387
388 // Variables declaration - do not modify
389 private javax.swing.JLabel JHGF;
390 private javax.swing.JTextField cd;
391 private javax.swing.JCheckBox chesttightness;
392 private javax.swing.JCheckBox concussion;
393 private javax.swing.JCheckBox coughingblood;
394 private javax.swing.JCheckBox covid19;
395 private javax.swing.JLabel datelab;
396 private javax.swing.JComboBox<String> doc;
397 private javax.swing.JLabel hgfd;
398 private javax.swing.JCheckBox impairedvision;
399 private javax.swing.JCheckBox internalbleeding;
400 private javax.swing.JButton jButton1;
401 private javax.swing.JButton jButton2;
402 private javax.swing.JCheckBox jCheckBox8;
403 private javax.swing.JLabel jLabel1;
404 private javax.swing.JLabel jLabel10;
405 private javax.swing.JLabel jLabel12;
406
407 private javax.swing.JLabel kjhgfd;
408 private javax.swing.JLabel nvrjgnvf;
409 private javax.swing.JTextField paddress;
410 private javax.swing.JComboBox<String> payment;
411 private javax.swing.JTextField pgender;
412 private javax.swing.JTextField pm;
413 private javax.swing.JLabel pmmm;
414 private javax.swing.JTextField pn;
415 private javax.swing.JTextField pnID;
416 private javax.swing.JTextField pphoneno;
417 private javax.swing.JTextField procmno;
418 private javax.swing.JLabel sdfgh;
419 private javax.swing.JCheckBox seizure;
420 private javax.swing.JLabel symp;
421 private javax.swing.JLabel timelab;
422 private javax.swing.JLabel uytre;
423
424 // End of variables declaration
425 }

```

The Emergency Patient form allows the admin to fill in the attributes of the emergency patient. The output of the code is in the picture below.

The screenshot shows a web form titled "Emergency Patient Form" for Grey-Sloan Memorial Hospital. The form includes fields for Name, National ID, Gender, Address, Phone Number, Symptoms (with checkboxes for Concussion, Coughing blood, Internal bleeding, Chest tightness, Seizure, Impaired vision, Covid-19, and Other), PaymentMethod (a dropdown menu showing "cash" and an adjacent input field), Choose Doctor (a dropdown menu showing "Dr. Meredith Grey" and an adjacent input field), and Room no. There are "Submit" and "Back" buttons at the bottom right. The top right corner has "Date:" and "Time:" labels.

## 4.5 Treat Patient

```

5  package com.mycompany.healthcaremanagementsystem;
6
7  import javax.swing.JOptionPane;
8
9
10
11  /**
12   *
13   * @author Jumana
14   */
15  public class TreatPatient extends javax.swing.JFrame {
16
17      /**
18       * Creates new form DoctorAvailability
19       */
20      public TreatPatient() {
21          initComponents();
22      }
23
24      /**
25       * This method is called from within the constructor to initialize the form.
26       * WARNING: Do NOT modify this code. The content of this method is always
27       * regenerated by the Form Editor.
28       */
29      @SuppressWarnings("unchecked")
30      Generated Code
31
32
33
34
35
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```

```

113 private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
114     state.setText(st.getSelectedItemAt().toString());
115     if (st.getSelectedItemAt().toString().equals("Normal"))
116     {
117         for (int i=0; i< Hospital.normalpatientslist.size(); i++)
118         {
119             if (Hospital.normalpatientslist.get(i).getNationalID().equals(pnID.getText())){
120                 Hospital.normalpatientslist.get(i).setDiagnosis(pdiagnosis.getText());
121                 Hospital.normalpatientslist.get(i).setPrescription(pprescription.getText());
122             }
123         }
124     }
125     else{
126         for (int i=0; i< Hospital.emergencypatientslist.size(); i++)
127         {
128             if (Hospital.emergencypatientslist.get(i).getNationalID().equals(pnID.getText())){
129                 Hospital.emergencypatientslist.get(i).setDiagnosis(pdiagnosis.getText());
130                 Hospital.emergencypatientslist.get(i).setPrescription(pprescription.getText());
131             }
132         }
133     }
134
135     JOptionPane.showMessageDialog(rootPane, "\n Prescription: " + pprescription.getText() + "\n Diagnosis: " + pdiagnosis.getText() + "\n Diagnosis and Prescription added succe
136
137     //NormalPdiagnosis = pdiagnosis.getText();
138 }
139
140 private void stateActionPerformed(java.awt.event.ActionEvent evt) {
141     // TODO add your handling code here:
142 }
143
144 private void jButton2ActionPerformed(java.awt.event.ActionEvent evt) {
145     MenuPage obj = new MenuPage();
146     obj.setVisible(true);
147     dispose();
148 }
149
151 /**
152  * @param args the command line arguments
153  */
154 public static void main(String args[]) {
155     /* Set the Nimbus look and feel */
156     Look and feel setting code (optional)
157
158     /* Create and display the form */
159     java.awt.EventQueue.invokeLater(new Runnable() {
160         public void run() {
161             new TreatPatient().setVisible(true);
162         }
163     });
164 }
165
166 // Variables declaration - do not modify
167 private javax.swing.JButton jButton1;
168 private javax.swing.JButton jButton2;
169 private javax.swing.JLabel jLabel1;
170 private javax.swing.JLabel jLabel2;
171 private javax.swing.JLabel jLabel3;
172 private javax.swing.JLabel jLabel4;
173 private javax.swing.JLabel jLabel5;
174 private javax.swing.JLabel jLabel6;
175 private javax.swing.JTextField pdiagnosis;
176 private javax.swing.JTextField pnID;
177 private javax.swing.JTextField pprescription;
178 private javax.swing.JComboBox<String> st;
179 private javax.swing.JTextField state;
180 // End of variables declaration
181
182 }

```

The Treat Patient Page allows admin/doctor to fill in the state of the patient, their prescription and diagnosis. The output of the code is in the picture below.






```

168
169
170  /**
171   * @param args the command line arguments
172   */
173  public static void main(String args[]) {
174      /* Set the Nimbus look and feel */
175      Look and feel setting code (optional)
176
177      /* Create and display the form */
178      java.awt.EventQueue.invokeLater(new Runnable() {
179          public void run() {
180              new Nursesrooms().setVisible(true);
181          }
182      });
183  }
184
185  // Variables declaration - do not modify
186  private javax.swing.JButton jButton1;
187  private javax.swing.JButton jButton2;
188  private javax.swing.JLabel jLabel1;
189  private javax.swing.JLabel jLabel2;
190  private javax.swing.JLabel jLabel3;
191  private javax.swing.JLabel jLabel4;
192  private javax.swing.JLabel jLabel5;
193  private javax.swing.JLabel jLabel6;
194  private javax.swing.JLabel jLabel7;
195  private javax.swing.JLabel jLabel8;
196  private javax.swing.JTextField naddress;
197  private javax.swing.JTextField nnID;
198  private javax.swing.JTextField nname;
199  private javax.swing.JTextField nphonenumber;
200  private javax.swing.JTextField nroom;
201  private javax.swing.JTextField nsalary;
202  // End of variables declaration
203
204  }

```

The Nurses' Room page allows the admin to fill in the Nurse class attributes and assign a room to a nurse. The output of the code is in the picture below.



**GREY-SLOAN  
MEMORIAL  
HOSPITAL**

## Nurses Form

Name:

National ID:

Phone Number

Address:

Salary:

Room:

