

# HOSPITAL DATABASE MANAGEMENT SYSTEM

## PYTHON AND MySQL PROJECT

### PYTHON MODULES AND USER DEFINED FUNCTIONS USED

1. `mysql.connector`: It is a computer software from Oracle Corporation. It is an interface which allows programming languages to communicate with a SQL database.
2. `Id_generator()`: It is an user defined function which helps in creating random alphanumeric strings so as to provide a unique identity to an object.
3. `Surgery()`: This user defined function was used to assign a date of surgery and validate it further as the date of surgery should be between date of admission and date of discharge.
4. `Datetime` module: This module helps us in entering the date in correct format, and ensures that the date is valid.
5. `Tabulate` module: This module helps in pretty printing of the output of the mysql server. This is useful in generating reports
6. `Change()`: This user defined function was used by the doctor to change the date of surgery of a particular patient if needed.
7. `Changestatus()`: This user defined function was used by the doctor to change the current status of the patient under care. For eg. Changing the status of treatment from stable to critical.

### Python Code:

```
#importing mysql.connector
import mysql.connector

mydb=mysql.connector.connect(host="localhost",user="root",passwd="abc123")

mycursor=mydb.cursor()
#creating database and related tables necessary

mycursor.execute("create database if not exists newlifehospital")
mycursor.execute("use newlifehospital")
mycursor.execute("create table if not exists doctor (Doctor_ID varchar(20) primary key, Doctors_First_Name varchar(20),
Doctors Last Name varchar(20), Gender varchar(20), Age int, Specialization Of Doctor varchar(20), College varchar(20), marks int,
Date_Of_Joining date, Success int, Fail int)")

mycursor.execute("create table if not exists patient(Patient_ID varchar(20) primary key, Patients_First_Name varchar(20),
Patients Last Name varchar(20), Patient Age int,DOB date,Doctor_ID varchar(20),Foreign key (Doctor_ID) references doctor(Doctor_ID)ON
DELETE CASCADE ON UPDATE CASCADE,Gender varchar(20),Disease varchar(20), Phone varchar(20))")
mycursor.execute("Create table if not exists room(Room_No int primary key, Patient_ID varchar(20),Foreign key (Patient_ID) references
patient (Patient_ID) ON DELETE CASCADE ON UPDATE CASCADE, Type_Of_Room varchar(20),Cost_Per_Day int)")
mycursor.execute("Create table if not exists in_patient(Patient_ID varchar(20),Foreign key (Patient_ID) references patient
(Patient_ID) ON DELETE CASCADE ON UPDATE CASCADE, Date_Of_Adm date,Date_Of_Dis date,No_Of_Days_Adm int)")
mycursor.execute("create table if not exists bill(Bill_No varchar(20) primary key,Patient_ID varchar(20),Foreign key (Patient_ID)
references patient (Patient_ID) ON DELETE CASCADE ON UPDATE CASCADE, Doctor_ID varchar(20),Foreign key (Doctor_ID) references doctor
(Doctor_ID) ON DELETE CASCADE ON UPDATE CASCADE, No_Of_Days_Adm int, Total_Cost int,Cost_Per_Day int)")
mycursor.execute("create table if not exists out_patient(Patient_ID varchar(20),Foreign key (Patient_ID) references patient
(Patient_ID) ON DELETE CASCADE ON UPDATE CASCADE,Patients_First_Name varchar(20), Surgery_No varchar(20) primary key, Bill_No
varchar(20), Foreign key (Bill_No) references bill (Bill_No) ON DELETE CASCADE ON UPDATE CASCADE,Status_Of_Treatment varchar(20),
Date_Of_Surgery date)")
mycursor.execute("create table if not exists userid(username varchar(20), password varchar(20))")
sqlbeforestart="select*from doctor"
mycursor.execute(sqlbeforestart)
myresultbefore=mycursor.fetchall()
if myresultbefore==[]:

    sqlstart="insert into doctor values(%s,%s,%s,%s,%s,%s,%s,%s,%s,%s,%s)"
    valstart=("8KQW2E","Rohan","Jain","male","45","Cardiologist","AIIMS",92,"2010-11-19" , 123 , 48)
    mycursor.execute(sqlstart,valstart)
    mydb.commit()

#login page code
q=0
while(q==0):
    print("""
=====
WELCOME TO NEWLIFE HOSPITALS PVT. LTD.
=====
""")
```

```

"""
print("\n")

print("\t\t\t\tLOGIN PAGE")
print("\n1.SIGN UP IF YOU ARE NEW")
print("\n2.LOGIN IF YOU ARE ALREADY REGISTERED")
w=int(input("enter choice: "))
if (w==1):
    username=input("ENTER USERNAME: (password should be atleast 6 characters long and containing atleast 1 numeric character)")
    if len(str(username))>=6 and username.isalnum()==True:
        sql="select * from userid where username = %s"
        val=username
        mycursor.execute(sql,(val,))
        myresult=mycursor.fetchall()
        if myresult==[]:
            print("username is available and registered. Please proceed to set password")
            password=input("ENTER PASSWORD: please select a strong password and dont share it with anyone")
            vall=(username,password)
            sql="insert into userid values(%s,%s)"
            mycursor.execute(sql,vall)
            mydb.commit()
            print("YOU HAVE BEEN REGISTERED. WELCOME.")
        else:
            print("username already registered. Please set a new username or login again if you are already registered")
            continue
    else:
        print("Username is not atleast 6 characters long. Please try again.")
        continue

if (w==2):
    username1=input("ENTER USERNAME: ")
    password1=input("ENTER PASSWORD: ")
    if len(str(username1))>=6 and username1.isalnum()==True:
        print("Searching for your username...")
        sql="select password from userid where username= %s "
        val=username1
        mycursor.execute(sql,(val,))
        myresult=mycursor.fetchall()
        if myresult==[]:
            print("Username does not exist")
        elif myresult[0][0]==password1:
            print("Username and password match. Welcome")
            break
        else:
            print("Wrong password. try again")
    else:
        print("Please enter a valid username")
        continue

#MAIN MENU-----
k=0
while(k==0):
    print(" ")
    print("MENU")
    print(" ")
    print("1.Patient Details")
    print("2.Calculate bill")
    print("3.Update or delete my records")
    print("4.Request my report")
    print("5.open doctors' details")
    print("6.Exit")
    print()

ch=int(input("Enter choice: "))
if (ch==6):
    print("""
=====
                                WELCOME TO NEWLIFE HOSPITALS PVT. LTD.
=====
""")

    print("\n")
    print("Thank you, for choosing our services. Come back soon and dont forget to leave us your valuable feedback")
    print("\n\n")
    k=1
if (ch==1):
    print("\t\t\t\tWELCOME TO PATIENT DATABASE")
    try:
        firstname=str(input("Enter Patient's first name:"))
        lastname=str(input("enter patient's last name: "))
        patientage=int(input("enter patient's age: "))
        if firstname.isalpha()==True and lastname.isalpha()==True and type(patientage)==int:
            gender=str(input("Gender of Patient:"))
            if gender.lower()=="male" or gender.lower()=="female" or gender.lower()=="other":
                print("Now, please state the reason of your discomfort or name of the disease you're suffering from:")
            else:
                print("ENTER VALID GENDER")
                print("choose any one gender (male/female/other)")
                continue
        except:
            print("Name should not contain numbers and Age should not contain alphabets")
            continue
        genderf=gender.lower()
        disease=str((input("disease:")))
        print("Great! Now we will be assigning you your Patient ID and the ID of the doctor assigned to you")
        import string

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import random
def id_generator(size=6, chars=string.ascii_uppercase + string.digits):
    return ''.join(random.choice(chars) for _ in range(size))
print("Your PatientID")
patientid=id_generator()
print(patientid)
print("remember it")
print("DoctorID")
sql="select Doctor_ID from doctor"
mycursor.execute(sql,)
myresult=mycursor.fetchall()
import random
doctorid=random.choice(myresult)
doctorid1 = ''.join(doctorid)
print(doctorid1)
print("remember it")
var=0
while (var==0):
    ph=(input("Phone no.: "))
    pho=str(ph)
    if ('1','2','3','4','5','6','7','8','9','0' in pho) and len(pho)==10:
        break
    else:
        print("Invalid phone no.")
        print("Enter again")
        continue
print(" patient's DOB")
y=int(input("Enter year (YYYY): "))
m=int(input("Enter month (MM): "))
d=int(input("Enter date (DD): "))
year=str(y)
month=str(m)
da=str(d)
br='-.'
date=year+br+month+br+da
if (d<=31) and (m<=12) and (m>0) and (d>0) and (y>0):
    if (m==4,6,9,11):
        if (d==31):
            print("Invalid date")
            print("Enter again")
            continue
        else:
            pass
    if (y%4==0) and (m==2):
        if (d==30,31):
            print("Invalid date")
            print("Enter again")
            continue
        else:
            pass
    if (y%4!=0) and (m==2):
        if (d==29) or (d==30) or (d==31):
            print("Invalid date")
            print("Enter again")
            continue
        else:
            pass
    else:
        print("invalid date")
        continue
date1=date
#inserting into patient table
sql=("insert into patient values(%s,%s,%s,%s,%s,%s,%s,%s,%s)")
val=(patientid,firstname,lastname,patientage,date1,doctorid1,genderf,disease,ph)
mycursor.execute(sql,val)
mydb.commit()
print("Now, please select which type of room you desire:")
print("ROOMS")
print("1. General ward")
print("2. Semi private room")
print("3. Private room")
print("4. Suite")

x=0
roomchoice=int(input("enter your choice"))
while (x==0):

    if roomchoice==1:
        typeofroom="General ward"
        costperday=12000
        x=1
    elif roomchoice==2:
        typeofroom="Semi private room"
        costperday=16000
        x=1
    elif roomchoice==3:
        typeofroom="Private room"
        costperday=18000
        x=1
    elif roomchoice==4:
        x=1
        typeofroom="Suite"
        costperday=21000
    else:
        print("invalid. try again")
        continue
print("your room is",typeofroom,"and cost per day is", costperday)
import string
import random
def id_generator2(size=3, chars=string.digits):
    return ''.join(random.choice(chars) for _ in range(size))

roomno=id_generator2()
print("your room number is",roomno)

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#INSERTING INTO TABLE ROOM
sql="insert into room values(%s,%s,%s,%s)"
val=(roomno,patientid,typeofroom,costperday)
mycursor.execute(sql,val)
mydb.commit()
print("\n\nYour details have been inserted successfully")
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if (ch==2):
    #PAYMENT OF BILL
    j=str(input("enter your patientid: "))
    sql="select Patients_First_Name, Doctor_ID from patient where Patient_ID = %s"
    val=j
    sqlh="select*from bill where Patient_ID=%s"
    val=j
    mycursor.execute(sqlh, (val,))
    myresult6=mycursor.fetchall()
    #VALIDATION OF ALREADY PAYING THE BILL
    if myresult6!=[]:
        print("\nOUR RECORDS SHOW THAT YOU HAVE ALREADY PAID THE BILL, DIRECTING TO MAIN MENU..")
        pass
        continue
    else:
        mycursor.execute(sql, (val,))
        myresult=mycursor.fetchall()
        u=str(myresult[0][1])
        print("Is your first name", str(myresult[0][0]),"??")
        confirm=str(input("type Y for yes and N for no: "))
        if confirm.lower()=="n":
            print("We cant find your name")
            break
        else:
            print("when did you get admitted?")
            print("date of admission")
            y1=int(input("Enter year (YYYY): "))
            m1=int(input("Enter month (MM): "))
            d1=int(input("Enter date (DD): "))
            year1=str(y1)
            month1=str(m1)
            da1=str(d1)
            br="-"
            date1=year1+br+month1+br+da1
            if (d1<=31) and (m1<=12) and (m1>0) and (d1>0) and (y1>0):
                if (m1==4,6,9,11):
                    if (d1==31):
                        print("Invalid date")
                        print("Enter again")
                        continue

                if (y1%4==0) and (m1==2):
                    if (d1==30,31):
                        print("Invalid date")
                        print("Enter again")
                        continue

                if (y1%4!=0) and (m1==2):
                    if (d1==29) or (d1==30) or (d1==31):
                        print("Invalid date")
                        print("Enter again")
                        continue

            print("When are you getting discharged?")
            print("date of discharge")
            y2=int(input("Enter year (YYYY): "))
            m2=int(input("Enter month (MM): "))
            d2=int(input("Enter date (DD): "))
            year2=str(y2)
            month2=str(m2)
            da2=str(d2)
            br="-"
            date2=year2+br+month2+br+da2
            if (d2<=31) and (m2<=12) and (m2>0) and (d2>0) and (y2>0):
                if (m2==4,6,9,11):
                    if (d2==31):
                        print("Invalid date")
                        print("Enter again")
                        continue

                if (y2%4==0) and (m2==2):
                    if (d2==30,31):
                        print("Invalid date")
                        print("Enter again")
                        continue

                if (y2%4!=0) and (m2==2):
                    if (d2==29) or (d2==30) or (d2==31):
                        print("Invalid date")
                        print("Enter again")
                        continue

            print("Date of admission",date1)
            print("Date of discharge",date2)
            from datetime import date
            f_date = date(y1, m1, d1)
            l_date = date(y2, m2, d2)
            delta = l_date - f_date
            daysadm=(delta.days)
            #VALIDATION OF DATE OF ADMISSION AND DISCHARGE
            if daysadm<0:
                print("INVALID DATE. TRY AGAIN")
                continue
            if date1==date2:
                daysadm=1
                print("Number of days of treatment", daysadm)
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else:
    print("Number of days of treatment",daysadm)
    #INSERT INTO IN PATIENT VALUES
    sql="insert into in_patient values (%s,%s,%s,%s)"
    val=(j,date1,date2,daysadm)
    mycursor.execute(sql,val)
    mydb.commit()
    sql="select Type_Of_Room, Cost_Per_Day from room where Patient_ID = %s"
    val=j
    mycursor.execute(sql,(val,))
    myresult1=mycursor.fetchall()
    print("Are the following details","\n Type of room: ",str(myresult1[0][0]),"\n Cost per Day:
",str(myresult1[0][1]),"\n correct? Do you wish to proceed")
    confirm=str(input("type Y for yes and N for no: "))
    if confirm.lower()=="n":
        print("Something went wrong. try again")
        break
    else:
        type1=myresult1[0][0]
        costperday=myresult1[0][1]
        totalcost=costperday*daysadm
        print("Total cost for your treatment",str(myresult[0][0]),"is",totalcost)
        sql="select Disease from patient where Patient_ID = %s"
        val=j
        mycursor.execute(sql,(val,))
        myresult2=mycursor.fetchall()
        import string
        import random
        def id_generator(size=6, chars=string.ascii_uppercase + string.digits):
            return ''.join(random.choice(chars) for _ in range(size))
        billno=id_generator()
        #INSERTING INFO IN BILL
        sql="insert into bill values (%s,%s,%s,%s,%s,%s)"
        val=(billno,j,u,daysadm,totalcost,costperday)
        mycursor.execute(sql,val)
        mydb.commit()
        print("\n\nYour details have been inserted successfully")
        print("Your billno is",billno,"do you wish to see the bill now?")
        confirm2=str(input("type Y for yes and N for no"))
        filename= "%s.txt" % billno
        file=open(filename,"w")
        file.writelines(["\t\t\t HOSPITAL MANAGEMENT SYSTEM\n\nPatient's Name: ",str(myresult[0][0]),"\n","Patient ID:
",j,"\n","Disease: ",str(myresult2[0]),"\n\n"])
        file.writelines(["Date Of Admission: ",date1,"\n","Date of Discharge: ",date2,"\n","Number of days of treatment:
",str(daysadm),"\n","Type of room: ",str(myresult1[0][0]),"\n\n"])
        file.writelines(["Cost per day of room: ",str(myresult1[0][1]),"\n","\n","TOTAL COST: ",str(totalcost)])
        file.close()
        if confirm2.lower()=="y":
            print("your bill will be generated shortly. Thank you")
            file=open(filename,"r")
            print(file.read())
            print("file has been saved to your system with the name",filename)
            print("\n YOUR ROOM IS NOW READY TO BE VACATED AND CLEANED FOR THE NEXT PATIENT.")
            print("\n\n THANK YOU FOR CHOOSING OUR FACILITIES FOR YOUR TREATMENT. WE HOPE THAT OUR SERVICES PROVIDED TO
YOU WERE SATISFACTORY")
            print("\n Have a nice day, please dont forget to leave your feedback!")
            sqlz="delete from room where Patient_ID=%s"
            valz=j
            mycursor.execute(sqlz,(valz,))
            mydb.commit()
            elif confirm2.lower()=="n":
                print("bill is being downloaded")
                print("download complete")
                print("file has been saved to your system with the name",filename)
                print("\n YOUR ROOM IS NOW READY TO BE VACATED AND CLEANED FOR THE NEXT PATIENT.")
                print("\n\n THANK YOU FOR CHOOSING OUR FACILITIES FOR YOUR TREATMENT. WE HOPE THAT OUR SERVICES PROVIDED TO
YOU WERE SATISFACTORY")
                print("\n Have a nice day, please dont forget to leave your feedback!")
                sqlz="delete from room where Patient_ID=%s"
                valz=j
                mycursor.execute(sqlz,(valz,))
                mydb.commit()
            else:
                print("enter valid input")
                break
if (ch==5):
    print("\t\t\t WELCOME TO DOCTOR DATABASE")
    print("\n\n THESE DETAILS CAN ONLY BE PRIVY TO ADMIN STAFF OF THIS HOSPITAL")
    print("\n\n choose from the following: ")
    print("\n 1. Operation details")
    print("\n 2. Register as a doctor")
    print("\n 3. Back to Main Menu")
    o=int(input("Enter your choice :"))
    if (o==2):
        #REGISTERING AS A DOCTOR
        print("We will require some of your academic qualifications and personal details before assigning you this job, ")
        dfirstname=str(input("Enter candidate's first name:"))
        dlastname=str(input("enter candidate's last name: "))
        dage=int(input("enter candidate's age: "))
        dgender=str(input("Gender of candidate :"))
        college=str(input("enter the institute from where you achieved MBBS degree: "))
        marks=int(input("enter your marks scored in college: "))
        if dgender.lower()=='male' or dgender.lower()=='female' or dgender.lower()=='other':
            print("Now, please choose your area of expertise : ")
            print("1. Cardiologist")
            print("2. Dermatologist")
            print("3. Surgeon")
            print("4. Gynecologist")
            print("5. Orthodontist")
            print("6. Other")
            x=int(input("enter your choice: "))
            if x==1:

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        spec="Cardiologist"
    elif x==2:
        spec="Dermatologist"
    elif x==3:
        spec="Surgeon"
    elif x==4:
        spec="Gynecologist"
    elif x==5:
        spec="Orthodontist"
    elif x==6:
        spec="other"
    else:
        print("INVALID CHOICE")
        break

else:
    break
doctordisease=print("Are you suffering from any major disease? (Y/N) ")
v=str(input("choice: "))
#EVALUATION OF INFO ENTERED
print("Great! Now we will be evaluating your information and reviewing your application")
if marks<=85 or dage>=55 or dage<=25 or v.lower()=='y':
    print("YOUR APPLICATION WAS REVIEWED. WE REGRET TO INFORM YOU THAT DUE TO SOME CONCERNS, YOU HAVE NOT BEEN ASSIGNED
THE JOB.")
    print("This might be due to the following reasons: ")
    print("1. Your age should be between 25 and 55")
    print("2. You should not be having any major diseases")
    print("3. Your academic qualifications should be adequate (>85%)")
    continue
else:
    print("YOUR CANDIDANCY WAS CONSIDERED AND WE ARE GLAD TO INFORM YOU THAT YOU ARE GIVEN THE JOB. WELCOME ABOARD!")
    print("\n\n When would you like to start?")
    print("DATE OF JOINING")
    from datetime import date
    today= date.today()
    y3=int(input("Enter year (YYYY): "))
    m3=int(input("Enter month (MM): "))
    d3=int(input("Enter date (DD): "))
    try:
        from datetime import date
        global date3
        date3 = date(y3,m3,d3)
        print("Entered date of joining", date3)
        from datetime import date
        difference= date3-today
        diff=difference.days
        if diff<0 :
            print("INVALID DATE. TRY AGAIN")
            continue
        else:
            print("YOU CAN START WORKING FROM", date3,"!!")
            print("\n\n NOW YOU WILL BE ASSIGNED YOUR UNIQUE DOCTOR ID. AVOID SHARING IT WITH ANYONE.")
            import string
            import random
            def id_generator(size=6, chars=string.ascii_uppercase + string.digits):
                return ''.join(random.choice(chars) for _ in range(size))
            doctorid=id_generator()
            print(doctorid)
            #INSERTING INTO DOCTOR
            sql="insert into doctor values(%s,%s,%s,%s,%s,%s,%s,%s,%s,%s,%s,%s)"
            val=(doctorid,dfirstname,dlastname,dgender,dage,spec,college,marks,date3,0,0)
            mycursor.execute(sql,val)
            mydb.commit()
            print("YOUR DETAILS ARE RECORDED")

    except:
        print("value error")
        continue

if (o==1):
    print("\t\t\t OPERATION DETAILS")
    doctorid=str(input("Enter your doctorid: "))
    #ADDING OPERATION DETAILS
    sql="select Doctors First Name, Doctors Last Name from doctor where Doctor ID = %s"
    val=doctorid
    mycursor.execute(sql, (val,))
    myresult=mycursor.fetchall()
    print("Welcome, ",myresult[0][0],myresult[0][1])
    print("\n\n input the patient id of the patient under observation")
    patientid=str(input("Enter the patient id: "))
    sqlbef="select*from in_patient where Patient_ID=%s"
    valbef=patientid
    mycursor.execute(sqlbef, (valbef,))
    myresultbef=mycursor.fetchall()
    if myresultbef==[]:
        print("Please pay bill first as the system will need the date of admission and date of discharge")
        print("You will be directed to the main menu..")
        continue
    sql1="select Patients_First_Name, Patients_Last_Name,Disease,Gender, Patient_Age from patient where Patient_ID = %s"
    val1=patientid
    mycursor.execute(sql1, (val1,))
    myresult1=mycursor.fetchall()
    print("\n Patient's Name: ",myresult1[0][0],myresult1[0][1])
    print("\n Gender: ",myresult1[0][3],"\n Age: ",myresult1[0][4],"\n Patient's Disease: ",myresult1[0][2])
    conf=str(input("\n\n DO YOU CONFIRM THESE DETAILS AND WANT TO PROCEED? (Y/N): "))
    if conf.lower()=="n":
        print("You will be directed to the main menu..")
        continue
    elif conf.lower()=="y":
        import string
        import random
        def id_generator(size=6, chars=string.ascii_uppercase + string.digits):

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        return ''.join(random.choice(chars) for _ in range(size))
    surgeryno=id_generator()
    print("surgery number is," ,surgeryno)
    print("Now, please enter the date of this operation")

def surgery():

    ye=int(input("Enter the year of operation"))
    mo=int(input("Enter the month of operation"))
    da=int(input("Enter the date of operation"))
    try:
        from datetime import date
        global dateofsurgery
        dateofsurgery = date(ye,mo,da)
        print("Entered date of surgery", dateofsurgery)
        j=1
    except:
        print("value error")
        surgery()

    sql="select Date_Of_Adm, Date_Of_Dis from in_patient where Patient_ID=%s"
    val=patientid
    mycursor.execute(sql,(val,))
    myresult8=mycursor.fetchall()

    dateofadm=myresult8[0][0]
    dateofdis=myresult8[0][1]
    if dateofadm > dateofsurgery or dateofsurgery > dateofdis:

        print("Date of surgery is invalid. Date of surgery should be between date of admission and discharge of the
patient")

        print("date of admission", dateofadm)
        print("date of discharge", dateofdis)

        surgery()
    else:
        j=1
    surgery()
    #CHOOSING STATUS OF PATIENT
    print("Now, please input the details of this operation")
    print("\n\n Select one of the options which best suited to the operation status")
    print("1. Operation successful, patient can be discharged at will")
    print("2. Operation successful, patient still needs to be under hospital care due to complications which may arise")
    print("3. Operation not successful, patient should be kept under special care.")
    print("4. Operation not successful, patient could not be saved.")
    stat=int(input("\n Enter most viable option: "))
    #VALIDATION OF NOT PAYING THE BILL
    sql3="select Bill No from bill where Patient ID=%s"
    mycursor.execute(sql3,(val1,))
    myresult3=mycursor.fetchall()
    if myresult3==[]:
        print("please pay the bill first")
        continue
    else:
        billno=myresult3[0][0]
        patientfname=myresult1[0][0]
    if stat==1:
        status="success, alive"
        sql2="update doctor set Success=Success+1 where Doctor_ID=%s"
        val2=doctorid
        mycursor.execute(sql2,(val2,))
        mydb.commit()

    elif stat==2:
        status="success, stable"
        sql2="update doctor set Success=Success+1 where Doctor_ID=%s"
        val2=doctorid
        mycursor.execute(sql2,(val2,))
        mydb.commit()

    elif stat==3:
        status="fail, critical"
        sql2="update doctor set Fail=Fail+1 where Doctor_ID=%s"
        val2=doctorid
        mycursor.execute(sql2,(val2,))
        mydb.commit()

    elif stat==4:
        status="fail, dead"
        sql2="update doctor set Fail=Fail+1 where Doctor_ID=%s"
        val2=doctorid
        mycursor.execute(sql2,(val2,))
        mydb.commit()
    else:
        print("INVALID INPUT")
        sql4="insert into out_patient values(%s,%s,%s,%s,%s,%s)"
        values=(patientid,patientfname,surgeryno,billno,status,dateofsurgery)
        mycursor.execute(sql4,values)
        mydb.commit()
        print("\nOPERATION DETAILS INSERTED SUCCESSFULLY.")

    else:
        print("INVALID INPUT")
    if (o==3):
        print("Directing to main page")
        continue
    if (ch==3):
        print("\n\t\t UPDATION AND DELETION OF RECORDS")
        print("\n\n Are you a patient or a doctor?")
        print("1. DOCTOR")
        print("2. PATIENT")
        yus=int(input("enter your choice: "))
        if (yus==1):
            print("\n\nPlease enter your doctor id for authentication")
            auth=str(input("Doctor id: "))
            sql="select Doctors_First_Name, Doctors_Last_Name from doctor where Doctor_ID=%s"

```

```

val=(auth)
mycursor.execute(sql, (val,))
myresult0=mycursor.fetchall()

if myresult0==[]:
    print("Your details are not to be found in the database. Please try again")
    continue
else:
    print("Welcome ", myresult0[0][0], myresult0[0][1], "!!")
    print("\n\nDo you wish to: \n 1. UPDATE RECORDS\n 2. DELETE RECORDS\n Please select 1 or 2")
    h=int(input())
    if (h==1):
        print("\n\nHere are some of the details you can edit:")
        print("1. Your specialisation")
        print("2. Your age")
        print("3. Date of a particular surgery")
        print("4. Status of treatment of patient")
        print("5. Back to previous page")
        l=int(input())
        if (l==1):
            print("Now, please choose your new area of expertise : ")
            print("1. Cardiologist")
            print("2. Dermatologist")
            print("3. Surgeon")
            print("4. Gynecologist")
            print("5. Orthodontist")
            print("6. Other")
            x=int(input("Enter your choice: "))
            if x==1:
                spec="Cardiologist"
            elif x==2:
                spec="Dermatologist"
            elif x==3:
                spec="Surgeon"
            elif x==4:
                spec="Gynecologist"
            elif x==5:
                spec="Orthodontist"
            elif x==6:
                spec="other"
            else:
                print("INVALID CHOICE")
                break
            sql="update doctor set Specialization_Of_Doctor=%s where Doctor_ID=%s"
            val=(spec,auth)
            mycursor.execute(sql,val)
            mydb.commit()
            print("Your new specialization registered in the database is", spec)
        elif (l==2):
            newage=int(input("Please enter your age: "))
            sql="update doctor set Age=%s where Doctor ID=%s"
            val=(newage,auth)
            mycursor.execute(sql,val)
            mydb.commit()
            print("Your new age registered in the database is", newage)
        elif (l==3):
            surgeryno=str(input("Enter the surgery number provided during the surgery"))
            sql="select Date_Of_Surgery, Patient_ID, Patients_First_Name from out_patient where exists(select Bill_No from
out_patient where Surgery_No=%s)"
            val=surgeryno

            mycursor.execute(sql, (val,))
            myresult9=mycursor.fetchall()
            if myresult9==[]:
                print("value error")
            else:
                patientid=myresult9[0][1]
                original=myresult9[0][0]
                name=myresult9[0][2]
                print("The previously entered date of surgery for patient", name, "was", original)
                print("Please edit the date of surgery")

                def change():
                    ye=int(input("Enter the year of operation"))
                    mo=int(input("Enter the month of operation"))
                    da=int(input("Enter the date of operation"))
                    try:
                        from datetime import date
                        global dateofsurgery1
                        dateofsurgery1 = date(ye,mo,da)
                        print("Entered date of surgery", dateofsurgery1)

                    except:
                        print("value error")
                        change()

                sql="select Date_Of_Adm, Date_Of_Dis from in_patient where Patient_ID=%s"
                val=patientid
                mycursor.execute(sql, (val,))
                myresult10=mycursor.fetchall()

                dateofadm=myresult10[0][0]
                dateofdis=myresult10[0][1]
                if dateofadm > dateofsurgery1 or dateofsurgery1 > dateofdis:

                    print("Date of surgery is invalid. Date of surgery should be between date of admission and
discharge of the patient")

                    print("date of admission", dateofadm)
                    print("date of discharge", dateofdis)

                    change()
                else:

                    sql="update out_patient set Date_Of_Surgery=%s where Date_Of_Surgery=%s"

```



```

        val=(dateofsurgery1,original)
        mycursor.execute(sql,val)
        mydb.commit()
        print("Your new date of surgery registered in the database is", dateofsurgery1)
    change()
elif (l==4):
    def changestatus():
        surgeryno=str(input("Enter the surgery number provided during the surgery"))
        sql="select Status_Of_Treatment, Patient_ID, Patients_First_Name from out_patient where exists(select
Bill_No from out_patient where Surgery_No=%s)"
        val=surgeryno
        mycursor.execute(sql,(val,))
        myresult11=mycursor.fetchall()

        if myresult11==[]:
            print("The entered Surgery number was not found in the database. Try Again")
            print("\n 1. TRY AGAIN")
            print("\n 2. BACK TO MAIN MENU")
            wee=int(input("\n"))
            if (wee==1):
                changestatus()
            elif (wee==2):
                return None
            else:
                print("INVALID ENTRY")
                return None

        else:
            patientid=myresult11[0][1]
            original=myresult11[0][0]
            name=myresult11[0][2]
            sql15="select Doctor_ID from patient where Patient_ID=%s"
            val15=patientid
            mycursor.execute(sql,(val,))
            myresult15=mycursor.fetchall()
            doctorid=myresult15[0][0]
            print("The previously entered status of treatment for patient", name, "was", original)
            print("Please edit the status of treatment")
            print("\n\n Select one of the options which best suited to the operation status")
            print("1. Operation successful, patient can be discharged at will")
            print("2. Operation successful, patient still needs to be under hospital care due to complications
which may arise")

            print("3. Operation not successful, patient should be kept under special care.")
            print("4. Operation not successful, patient could not be saved.")
            stat=int(input("\n Enter most viable option: "))

            if stat==1:
                status="success, alive"
                sql2="update doctor set Success=Success+1 where Doctor_ID=%s"
                val2=doctorid
                mycursor.execute(sql2,(val2,))
                mydb.commit()

            elif stat==2:
                status="success, stable"
                sql2="update doctor set Success=Success+1 where Doctor_ID=%s"
                val2=doctorid
                mycursor.execute(sql2,(val2,))
                mydb.commit()

            elif stat==3:
                status="fail, critical"
                sql2="update doctor set Fail=Fail+1 where Doctor_ID=%s"
                val2=doctorid
                mycursor.execute(sql2,(val2,))
                mydb.commit()

            elif stat==4:
                status="fail, dead"
                sql2="update doctor set Fail=Fail+1 where Doctor_ID=%s"
                val2=doctorid
                mycursor.execute(sql2,(val2,))
                mydb.commit()

            else:
                print("INVALID INPUT")
                sql4="update out_patient set Status_Of_Treatment=%s where Status_Of_Treatment=%s and Patient_ID=%s"

                values=(status, original, patientid)
                mycursor.execute(sql4,values)
                mydb.commit()
                print("\nOPERATION DETAILS UPDATED SUCCESSFULLY.")

            changestatus()
elif (l==5):
    print("\n\nDIRECTING BACK TO MAIN MENU..")
    continue
else:
    print("INVALID INPUT, TRY AGAIN")
    continue

elif (h==2):
    print("\n WARNING: DELETION OF DETAILS WILL RESULT IN REMOVAL OF ALL YOUR DETAILS FROM THE DATABASE. THIS ACTION
CANNOT BE UNDONE. ")
    print("\n ARE YOU SURE YOU WANT TO CONTINUE?")
    print("1. I agree, remove my details from this institution")
    print("2. No, back to main menu")
    ch=int(input("enter your choice: "))
    if (ch==1):
        print("Deletion of details requested by user...")
        print("Waiting for request to be accepted..")
        print("The process of complete deletion of your details has started. This might take a minute")
        print("...")
        sql16="delete from doctor where Doctor ID=%s"
        val=auth
        mycursor.execute(sql16,(auth,))
        mydb.commit()

```

```

        print("Details have been successfully deleted")
        continue
    elif (ch==2):
        print("Directing you to main menu")
        continue
    else:
        print("INVALID ENTRY")
        continue
else:
    print("INVALID ENTRY")
    continue

elif (yus==2):
    print("Please enter your Patient ID for authentication")
    auth=str(input("Patient id: "))
    sql="select Patients First Name, Patients Last Name from patient where Patient ID = %s"
    val=auth
    mycursor.execute(sql, (val,))
    myresult0=mycursor.fetchall()

    if myresult0==[]:
        print("Your details are not to be found in the database. Please try again")
        continue
    else:
        print("Welcome ", myresult0[0][0], myresult0[0][1], "!!")
        print("\n\nDo you wish to: \n 1. UPDATE RECORDS\n 2. DELETE RECORDS\n Please select 1 or 2 ")
        h=int(input())
        if (h==1):
            print("here are some of the details you can edit: ")
            print("1. Patient Age")
            print("2. Disease the patient is suffering from")
            print("3. contact details of the patient")
            print("4. Request to change another room")
            print("5. Back to main menu")
            o=int(input("enter your choice: "))
            if (o==1):
                newage=int(input("Please enter your age: "))
                sql="update patient set Patient_Age=%s where Patient_ID=%s"
                val=(newage,auth)
                mycursor.execute(sql,val)
                mydb.commit()
                print("Your new age registered in the database is", newage)
            elif (o==2):
                sql="select Disease from patient where Patient ID=%s"
                val=auth
                mycursor.execute(sql, (val,))
                myresult30=mycursor.fetchall()
                originald=myresult30[0][0]
                print("The original disease registered in the database is", originald)
                newd=str(input("Enter your new disease : "))
                sql100="update patient set Disease=%s where Patient_ID=%s"
                vals=(newd,auth)
                mycursor.execute(sql100,vals)
                mydb.commit()
                print("Details have been edited ")
                print("\n YOUR DISEASE WAS CHANGED FROM", originald, "TO", newd)
            elif (o==3):
                sql191="select Phone from patient where Patient_ID=%s"
                val=auth
                mycursor.execute(sql191, (val,))
                myresult191=mycursor.fetchall()
                originalp=myresult191[0][0]
                print("\n The original phone number entered was", originalp)
                print("\n Now, please enter the new phone number")
                var=0
                while (var==0):
                    ph=(input("Phone no.: "))
                    pho=str(ph)
                    if ('1','2','3','4','5','6','7','8','9','0' in pho) and len(pho)==10:
                        break
                    else:
                        print("Invalid phone no.")
                        print("Enter again")
                        continue
                sql101="update patient set Phone=%s where Patient ID=%s"
                vals=(pho,auth)
                mycursor.execute(sql101,vals)
                mydb.commit()
                print("Details have been edited ")
                print("\n YOUR PHONE NUMBER WAS CHANGED FROM", originalp, "TO", pho)
            elif (o==4):
                sql90="select Room_no, Type_Of_Room, Cost_Per_Day from room where Patient_ID=%s"
                vals=auth
                mycursor.execute(sql90, (vals,))
                myresult90=mycursor.fetchall()
                if myresult90==[]:
                    print("You have already been discharged. There is no room allotted to you as per our records.")
                    continue
                else:
                    print("As per our records, your current room details are:")
                    print("\n ROOM NO: ", myresult90[0][0])
                    print("\n TYPE OF ROOM: ", myresult90[0][1])
                    print("\n COST PER DAY OF ROOM: ", myresult90[0][2])
                    print("\n Now, please select which type of room you desire:")
                    print("ROOMS")
                    print("1. General ward")
                    print("2. Semi private room")
                    print("3. Private room")
                    print("4. Suite")

                    x=0
                    roomchoice=int(input("enter your choice"))

```

```

while (x==0):

    if roomchoice==1:
        typeofroom="General ward"
        costperday=12000
        x=1
    elif roomchoice==2:
        typeofroom="Semi private room"
        costperday=16000
        x=1
    elif roomchoice==3:
        typeofroom="Private room"
        costperday=18000
        x=1
    elif roomchoice==4:
        x=1
        typeofroom="Suite"
        costperday=21000
    else:
        print("invalid. try again")
        continue
    print("your new selected room is",typeofroom,"and cost per day is", costperday)
    import string
    import random
    def id_generator2(size=3, chars=string.digits):
        return ''.join(random.choice(chars) for _ in range(size))

    roomno=id_generator2()
    print("your new room number is",roomno)
    sql="update room set Room_no=%s, Patient_ID=%s, Type_Of_Room=%s, Cost_Per_Day=%s where Patient_ID=%s"
    val=(roomno,auth,typeofroom,costperday,auth)
    mycursor.execute(sql,val)
    mydb.commit()
    print("\n\nYour details have been updated successfully")

elif(o==5):
    print("directing you to main menu...")
    continue
else:
    print("INVALID ENTRY")
    continue
elif (h==2):
    print("\n WARNING: DELETION OF DETAILS WILL RESULT IN REMOVAL OF ALL YOUR DETAILS FROM THE DATABASE. THIS ACTION
    CANNOT BE UNDONE. ")
    print("\n ARE YOU SURE YOU WANT TO CONTINUE?")
    print("1. I agree, remove my details from this hospital")
    print("2. No, back to main menu")
    ch=int(input("enter your choice: "))
    if (ch==1):
        print("Deletion of details requested by user...")
        print("Waiting for request to be accepted..")
        print("The process of complete deletion of your details has started. This might take a minute")
        print("...")
        pass
        sql16="delete from patient where Patient_ID=%s"
        val=auth
        mycursor.execute(sql16,(auth,))
        mydb.commit()
        print("Details have been successfully deleted")
        continue
    elif (ch==2):
        print("Directing you to main menu")
        continue
    else:
        print("INVALID ENTRY")
        continue
else:
    print("INVALID ENTRY")
    continue

if (ch==4):
    print("\t\t\t REPORT GENERATION")
    print("Here are the following data we can provide to a user about the hospital")
    print("\nABOUT THE PATIENT: ")
    print("\n1. All the information about a particular patient")
    print("2. Total no patients treated in the hospital")
    print("3. Total number of people having same disease/Injury")
    print("4. Name of those people who stayed for specific amount of days")
    print("5. Info of people who were admitted on a specific date")
    print("6. Info of people who were discharged on a specific date")
    print("7. Patients who had similar disease segregated on the basis of their gender")
    print("8. Info of those patients having similar disease in a particular age group")
    print("9. People who had similar disease and for how many days they were admitted")

    print("\n\nAbout the doctor:")
    print("\n10. Number of surgery done by a specific doctor")
    print("\n11. Name of those doctors having same field of expertise")
    print("\n12. Success rate of surgery and doctor having highest success rate")

    print("\n\nCash Flow and Misc: ")
    print("\n13. Total money generated on a specific day")
    print("\n14. Average Money generated per patient")
    print("\n15. Details of academic excellence of doctors (average marks scored)")

    print("\n\nRooms:")
    print("\n16. Total Numbers of rooms occupied and unoccupied in a day")
    print("\n\nWhich report do you desire to generate? ")
    print("1. ABOUT THE PATIENT")
    print("2. ABOUT THE DOCTOR")
    print("3. CASH FLOW")
    print("4. ROOMS")

```

```

jk=int(input("Enter your choice (1/2/3/4): "))

if (jk==1):
    jkl=int(input("Enter the particular report number from the aforementioned PATIENT reports: "))
    if (jkl==1):
        print("REPORT CHOSEN: 1. All the information about a particular patient")
        patientid=str(input("Enter the patientid of the particular patient: "))
        from tabulate import tabulate
        sql1="select*from patient where Patient_ID=%s "
        vall=patientid
        mycursor.execute(sql1,(vall,))
        myresult1=mycursor.fetchall()

        if myresult1==[]:
            print("THE DETAILS ENTERED WERE NOT FOUND IN THE DATABASE. TRY AGAIN WITH VALID INPUTS")
        else:
            print("\n\nGenerating your report...")
            file=open("report","w")
            file.write("This report contains all details of the patient entered at the time of admission")
            file.write("\n\n")
            file.write("""
=====
                                WELCOME TO NEWLIFE HOSPITALS PVT. LTD.
=====

""")

            file.write("\n")
            file.write(tabulate(myresult1, headers=['Patient ID', 'Patients first Name','Patients Last Name', 'Patients
Age','DOB','Doctor ID','Gender','Disease','Phone'], tablefmt='psql'))
            file.close()
            file=open("report","r")
            print(file.read())
            print("\n\nYour desired report is generated and SAVED")
    elif (jkl==2):
        print("REPORT CHOSEN: 2. Total no patients treated in the hospital")
        sql2a="select Patient_ID, Patients_First_Name, Patients_Last_Name from patient"
        mycursor.execute(sql2a)
        myresult2a=mycursor.fetchall()
        sql2b="select count(Patient_ID) from patient"
        mycursor.execute(sql2b)
        myresult2b=mycursor.fetchall()
        if myresult2a==[]:
            print("There are no patients admitted in the hospital currently")
        else:
            from tabulate import tabulate
            file=open("report","w")
            print("\n\nGenerating your report...")
            file.write("This report contains the number of patients admitted in the hospital and their names")
            file.write("\n\n")
            file.write("""
=====
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=====

""")

            file.write("\n")
            file.write(tabulate(myresult2a, headers=['Patient ID','Patients first Name','Patients Last Name'],
tablefmt='psql'))

            file.write("\n")
            file.write(tabulate(myresult2b, headers=['Number of Patients'], tablefmt='psql'))
            file.close()
            file=open("report","r")
            print(file.read())
            print("\n\nYour desired report is generated and SAVED")
    elif (jkl==3):
        print("REPORT CHOSEN: 3. Total number of people having same disease/Injury")
        sql3a="select count(Patient_ID), Disease from patient group by Disease"
        mycursor.execute(sql3a)
        myresult3a=mycursor.fetchall()
        if myresult3a==[]:
            print("There are no patients admitted in the hospital currently")
        else:
            from tabulate import tabulate
            file=open("report","w")
            print("\n\nGenerating your report...")
            file.write("This report contains the number of patients admitted in the hospital, suffering from the same
disease/injury")

            file.write("\n\n")
            file.write("""
=====
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=====

""")

            file.write("\n")
            file.write(tabulate(myresult3a, headers=['Patients having particular disease','Disease'], tablefmt='psql'))
            file.close()
            file=open("report","r")
            print(file.read())
            print("\n\nYour desired report is generated and SAVED")
    elif (jkl==4):
        print("REPORT CHOSEN: 4. Name of those people who stayed for specific amount of days")
        no=int(input("Enter a specific number of days of treatment"))
        if (no<=0):
            print("The number of days should be greater than or equal to 1")
        else:
            sql4="select Patients_First_Name, patient.Patient_ID from patient, in_patient where No_Of_Days_Adm=%s and
patient.Patient_ID=in_patient.Patient_ID"

```

```

val4=no
mycursor.execute(sql4, (val4,))
myresult4=mycursor.fetchall()
if myresult4==[]:
    print("There are NO details of patients admitted for", no, "days")
    print("\n Try again")
    continue
else:
    from tabulate import tabulate
    file=open("report", "w")

    print("\n\nGenerating your report...")
    file.write("This report contains the name and ID of patients admitted in the hospital for"+str(no)+"days")
    file.write("\n\n")
    file.write("""
=====
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=====
""")

    file.write("\n")
    file.write(tabulate(myresult4, headers=['Patients First Name', 'Patient ID'], tablefmt='psql'))
    file.close()
    file=open("report", "r")
    print(file.read())
    print("\n\nYour desired report is generated and SAVED.")
elif (jkl==5):
    print("REPORT CHOSEN: 5. Info of people who were admitted on a specific date ")
    print("Date of admission")
    from datetime import date
    ye5=int(input("Enter the year of admission (YYYY): "))
    mo5=int(input("Enter the month of admission (MM): "))
    da5=int(input("Enter the date of admission (DD): "))
    try:
        dateofadm5a=date(ye5,mo5,da5)
        dateofadm5b=str(dateofadm5a)
        val=dateofadm5b
        sql5="select patient.Patient_ID,Patients_First_Name,Patients_Last_Name, Disease,Gender,Patient_Age from
patient,in_patient where Date_Of_Adm=%s and in_patient.Patient_ID=patient.Patient_ID"
mycursor.execute(sql5, (val,))
myresult5=mycursor.fetchall()
if myresult5==[]:
    print("No patient was admitted on", dateofadm5b)
    continue
else:
    from tabulate import tabulate
    file=open("report", "w")
    print("\n\nGenerating your report...")
    file.write("This report contains the details of patients admitted on"+str(dateofadm5b))
    file.write("\n\n")
    file.write("""
=====
                                WELCOME TO NEWLIFE HOSPITALS PVT. LTD.
=====
""")

    file.write("\n")
    file.write(tabulate(myresult5, headers=['Patient ID', 'Patients First Name', 'Patients Last
Name', 'Disease', 'Gender', 'Age'], tablefmt='psql'))
    file.close()
    file=open("report", "r")
    print(file.read())
    print("\n\nYour desired report is generated and SAVED")
except:
    print("value error")
    continue
elif (jkl==6):
    print("REPORT CHOSEN: 6. Info of people who were discharged on a specific date ")
    print("Date of discharge")
    from datetime import date
    ye6=int(input("Enter the year of discharge (YYYY): "))
    mo6=int(input("Enter the month of discharge (MM): "))
    da6=int(input("Enter the date of discharge (DD): "))
    try:
        dateofdis6a=date(ye6,mo6,da6)
        dateofdis6b=str(dateofdis6a)
        val=dateofdis6b
        sql6="select patient.Patient_ID,Patients_First_Name,Patients_Last_Name, Disease,Gender,Patient_Age from
patient,in_patient where Date_Of_Dis=%s and in_patient.Patient_ID=patient.Patient_ID"
mycursor.execute(sql6, (val,))
myresult6=mycursor.fetchall()
if myresult6==[]:
    print("No patient was discharged on", dateofdis6b)
    continue
else:
    from tabulate import tabulate
    file=open("report", "w")

    file.write("\n\nGenerating your report...")
    file.write("This report contains the details of patients discharged on"+str(dateofdis6b))
    file.write("\n\n")
    file.write("""
=====
                                WELCOME TO NEWLIFE HOSPITALS PVT. LTD.
=====
""")

```

```

        file.write("\n")
        file.write(tabulate(myresult6, headers=['Patient ID','Patients First Name','Patients Last
Name','Disease','Gender','Age'], tablefmt='psql'))
        file.close()
        file=open("report","r")
        print(file.read())
        print("\n\nYour desired report is generated and SAVED")
    except:
        print("value error")
        continue
elif (jkl==7):
    print("REPORT CHOSEN: 7. Patients who had similar disease segregated on the basis of their gender")
    sql7a="select distinct Disease from patient"
    mycursor.execute(sql7a)
    myresult7a=mycursor.fetchall()
    y=len(myresult7a)
    print("There are", y, "distinct diseases in our database")
    print("choose any one")
    list7=[]
    for i in range (0,y):
        print(i+1,".",myresult7a[i][0])
        list7.append(myresult7a[i][0])
    ch7=int(input("Enter disease number: "))
    if ch7>y:
        print("INVALID CHOICE")

    elif ch7<=0:
        print("INVALID CHOICE")

    else:
        disease7=list7[ch7-1]
        print("\nNow, the system will calculate data regarding this disease based on different genders")
        sql7b="select count(Patient_ID) from patient where Disease=%s and Gender=%s"
        val7b=(disease7,"female")
        mycursor.execute(sql7b,val7b)
        myresult7b=mycursor.fetchall()

        val7c=(disease7,"male")
        mycursor.execute(sql7b,val7c)
        myresult7c=mycursor.fetchall()

        val7d=(disease7,"other")
        mycursor.execute(sql7b,val7d)
        myresult7d=mycursor.fetchall()

        sql7e="select count(Patient_ID) from patient where Disease=%s"
        val7e=disease7
        mycursor.execute(sql7e,(val7e,))
        myresult7e=mycursor.fetchall()

        from tabulate import tabulate
        print("CHOSEN DISEASE: ",disease7)
        print("\n\nGenerating your report...")
        print("This report contains the details of patients having disease", disease7)
        print("\n\n")
        print("""
=====
WELCOME TO NEWLIFE HOSPITALS PVT. LTD.
=====
""")

        print("\n")
        print("Total number of patients having", disease7, "are", myresult7e[0][0])
        print("\n")
        print(tabulate(myresult7b, headers=['Number of female patients having the disease','Gender'], tablefmt='psql'))
        print(tabulate(myresult7c, headers=['Number of male patients having the disease','Gender'], tablefmt='psql'))
        print(tabulate(myresult7d, headers=['Number of other patients having the disease','Gender'], tablefmt='psql'))
        print("\n")
        print("Amongst all the patients infected with this disease: ")
        print("\nMale people infected with", disease7,"are: ", ((myresult7b[0][0]/myresult7e[0][0])*100), "%")
        print("\nFemale people infected with", disease7,"are: ", ((myresult7c[0][0]/myresult7e[0][0])*100), "%")
        print("\nOther people infected with", disease7,"are: ", ((myresult7d[0][0]/myresult7e[0][0])*100), "%")

        print("\n\nYour desired report is generated and SAVED")
    elif (jkl==8):
        print("REPORT CHOSEN: 8. Info of those patients having similar disease in a particular age group")
        print("Define Age Group")
        start=int(input("Enter starting age of this particular age group: "))
        end=int(input("Enter ending age of this particular age group: "))
        if start>=0 and end >=0 and end>start:

            sql8a="select distinct(Disease) from patient where Patient_Age between %s and %s"
            val8a=(start,end)
            mycursor.execute(sql8a,val8a)
            myresult8a=mycursor.fetchall()
            y=len(myresult8a)
            print("There are", y, "distinct disease(s) in our database")
            list8a=[]
            list8b=[]
            for i in range (0,y):
                print(i+1,".",myresult8a[i][0])
                list8a.append(myresult8a[i][0])

            sql8b="select count(Patient_ID),Disease from patient where Patient_Age between %s and %s and Disease=%s"
            val8b=(start,end,list8a[i])
            mycursor.execute(sql8b,val8b)
            myresult8b=mycursor.fetchall()

            list8b.append(myresult8b)

```

```

sql8c="select count(Patient_ID) from patient where Patient_Age between %s and %s"
val8c=(start,end)
mycursor.execute(sql8c,val8c)
myresult8c=mycursor.fetchall()
from tabulate import tabulate
print("\n\nGenerating your report...")
file=open("report","w")
file.write("This report contains the details of patients in age group"+str(start)+"-"+str(end))
file.write("\n\n")
file.write("""
=====
WELCOME TO NEWLIFE HOSPITALS PVT. LTD.
=====
""")

file.write("\n")
file.write("Total number of patients in particular age group: "+str(myresult8c[0][0]))
file.write("\n")
y8b=len(list8b)

for j in range(0,y8b):
    file.write("\n\n")
    file.write(tabulate(list8b[j], headers=['Number of patients having the disease','Disease'], tablefmt='psql'))
    file.write("\n")
    file.write("Percentage of people having this disease in the given age group
is:"+str((list8b[j][0][0]/myresult8c[0][0])*100)+ "%")
    print("\n\nYour desired report is generated and SAVED")
    file.close()
    file=open("report","r")
    print(file.read())

else:
    print("INVALID INPUT")
elif (jkl==9):
    print("REPORT CHOSEN: 9. People who had similar disease and for how many days they were admitted")
    sql9a="select distinct(Disease) from patient,in_patient where patient.Patient_ID=in_patient.Patient_ID"

    mycursor.execute(sql9a)
    myresult9a=mycursor.fetchall()

    y=len(myresult9a)
    print("There are", y, "distinct disease(s) contracted by the patients in our database currently")
    list9a=[]
    list9b=[]
    for i in range (0,y):
        print(i+1,".",myresult9a[i][0])
        list9a.append(myresult9a[i][0])

        sql9b="select in_patient.Patient ID, patient.Patients First Name, No Of Days Adm, Disease from patient, in_patient
where Disease=%s and patient.Patient_ID=in_patient.Patient_ID"
        val9b=(list9a[i])
        mycursor.execute(sql9b,(val9b,))
        myresult9=mycursor.fetchall()

        list9b.append(myresult9)
    from tabulate import tabulate
    print("\n\nGenerating your report...")
    file=open("report","w")
    file.write("This report contains the details of patients in having same disease on the basis of number of days for
which they were
admitted")
    file.write("\nTo keep the results of this report fair and exact, the data mentioned below is SOLELY based on patients
who have already
been discharged till date")
    file.write("\n\n")
    file.write("""
=====
WELCOME TO NEWLIFE HOSPITALS PVT. LTD.
=====
""")

file.write("\n")

file.write("\n")
y9b=len(list9b)

for j in range(0,y9b):
    file.write("\n\n")
    file.write(tabulate(list9b[j], headers=['Patient ID','Patients Name','Number of days admitted','Disease'],
tablefmt='psql'))

    print("\n\nYour desired report is generated and SAVED")
    file.close()
    file=open("report","r")
    print(file.read())
else:
    print("Invalid input")
elif (jk==2):
    jk2=int(input("Enter the particular report number from the aforementioned reports: "))
    if (jk2==10):
        print("REPORT CHOSEN: 10. Number of surgery done by a specific doctor")
        doctorid=str(input("Enter the doctorid of the particular doctor: "))
        from tabulate import tabulate
        sql10="select Doctor_ID, Doctors_First_Name, Doctors_Last_Name, Specialization_Of_Doctor, sum(Success+Fail) from
doctor where Doctor_ID=%s "
        val10=doctorid
        mycursor.execute(sql10,(val10,))
        myresult10=mycursor.fetchall()

        if myresult10==[]:
            print("THE DETAILS ENTERED WERE NOT FOUND IN THE DATABASE. TRY AGAIN WITH VALID INPUTS")
        else:

```

```

        print("\n\nGenerating your report...")
        file=open("report","w")
        file.write("This report contains details of the doctor inclusive of total number of sugeries performed by a
particular doctor")
        file.write("\n\n")
        file.write("""
=====

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""")

        file.write("\n")
        file.write(tabulate(myresult10, headers=['Doctor ID', 'Doctors first Name','Doctors Last
Name','Specialization','Total number of surgeries done'], tablefmt='psql'))
        print("\n\nYour desired report is generated and SAVED")
        file.close()
        file=open("report","r")
        print(file.read())
    elif (jk2==11):
        print("REPORT CHOSEN: 11. Name of those doctors having same field of expertise")
        sql11a="select distinct(Specialization Of Doctor) from doctor"

        mycursor.execute(sql11a)
        myresult11a=mycursor.fetchall()

        y=len(myresult11a)
        print("There are", y, "distinct specialization(s) of doctors in our database currently")
        list11a=[]
        list11b=[]
        for i in range (0,y):
            print(i+1,".",myresult11a[i][0])
            list11a.append(myresult11a[i][0])

            sql11b="select Doctors_First_Name, Doctors_Last_Name, Specialization_Of_Doctor from doctor where
Specialization_Of_Doctor=%s"
            vall1b=(list11a[i])
            mycursor.execute(sql11b,(vall1b,))
            myresult11b=mycursor.fetchall()

            list11b.append(myresult11b)
        from tabulate import tabulate
        file=open("report","w")
        print("\n\nGenerating your report...")
        file.write("This report contains the details of doctors having same field of expertise")

        file.write("""
=====

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""")

        file.write("\n")

        file.write("\n")
        y1b=len(list11b)

        for j in range(0,y1b):

            file.write("\n\n")
            file.write("Specialization : "+str(list11b[j][0][2]))
            file.write("\n")
            file.write(tabulate(list11b[j], headers=['Doctors First Name', 'Doctors Last Name', 'Specialization Of Doctor'],
tablefmt='psql'))

        print("\n\nYour desired report is generated and SAVED")
        file.close()
        file=open("report","r")
        print(file.read())
    elif (jk2==12):
        file=open("report","w")
        file.write("REPORT CHOSEN: 12. Success rate of surgery and doctor having highest success rate")
        file.write("\n\nGenerating your report...")
        file.write("This report contains the details of doctors and the doctor having the highest success rate")

        file.write("""
=====

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""")

        file.write("\n")

        sql12a="select Doctor ID, Doctors_First_Name, Doctors_Last_Name, Specialization_Of_Doctor, Success, Fail from doctor"
        mycursor.execute(sql12a)
        myresult12a=mycursor.fetchall()
        list12a=[]
        for i in range (0,len(myresult12a)):
            try:
                x=int((myresult12a[i][4]/(myresult12a[i][5]+myresult12a[i][4]))*100)
            except:
                x=0
            list12a.insert(i,x)
            file.write("Doctor ID: "+str(myresult12a[i][0]))
            file.write("\nDoctors First Name: "+str(myresult12a[i][1]))
            file.write("\nDoctors Last Name: "+str(myresult12a[i][2]))
            file.write("\nField of expertise: "+str(myresult12a[i][3]))
            file.write("\nNumber of successful operations: "+str(myresult12a[i][4]))
            file.write("\nNumber of unsuccessful operations: "+str(myresult12a[i][5]))

```



```

        file.write("\n\nSUCCESS RATE OF SURGERY DONE BY THIS PARTICULAR DOCTOR: "+str(x)+"%")
        file.write("\n\n\n")

    posn=list12a.index(max(list12a))
    count=0
    for j in range (0,len(list12a)):
        if (list12a[j]==list12a[posn]):
            count+=1
    if count>=2:
        file.write("Two doctors have the same success rate, hence the system has chosen the doctor who joined this
hospital first out of the two")
        file.write("\n\nHighest success rate of surgery done by a doctor is: "+str(max(list12a))+"%")
        file.write("\n\n")
        file.write("The doctor who has the highest success rate is "+str(myresult12a[posn][1])+"
"+str(myresult12a[posn][2]))
        file.close()
        file=open("report","r")
        print(file.read())
    else:
        file.write("Highest success rate of surgery done by a doctor is: "+str(max(list12a))+"%")
        file.write("\n\n")
        file.write("The doctor who has the highest success rate is "+str(myresult12a[posn][1])+"
"+str(myresult12a[posn][2]))
        file=open("report","r")
        print(file.read())
        print("\n\nYour desired report is generated and SAVED")
    else:
        print("INVALID ENTRY")
        continue
elif (jk==3):

    jk3=int(input("Enter the particular report number from the aforementioned reports: "))
    if (jk3==13):

        print("REPORT CHOSEN: 13. Total money generated on a specific day")
        from datetime import date
        ye13=int(input("Enter the year of discharge (YYYY): "))
        mo13=int(input("Enter the month of discharge (MM): "))
        da13=int(input("Enter the date of discharge (DD): "))
        try:

            dateofdis13a=date(ye13,mo13,da13)
            dateofdis13b=str(dateofdis13a)
            val=dateofdis13b
            sql13="select bill.Patient ID, Total Cost, Date Of Dis from bill, in_patient where Date Of Dis=%s and
in_patient.Patient_ID=bill.Patient_ID"
            mycursor.execute(sql13, (val,))
            myresult13=mycursor.fetchall()
            sql13b="select sum(Total_Cost) from bill, in_patient where Date_Of_Dis=%s and
in_patient.Patient_ID=bill.Patient_ID"
            mycursor.execute(sql13b, (val,))
            myresult13b=mycursor.fetchall()
            if myresult13==[]:
                print("No patient was discharged on", dateofdis13b)
                print("Hence, no money was generated on that day")
                continue
            else:
                from tabulate import tabulate
                file=open("report","w")
                print("\n\nGenerating your report...")

                file.write("This report contains the total amount of money generated on a specific date")

                file.write("""

=====

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""")

                file.write("\n\n")
                file.write(tabulate(myresult13, headers=['Patient ID','Total Cost of this patient','Date of discharge'],
tablefmt='psql'))

                file.write("\n\n")
                file.write(tabulate(myresult13b, headers=['Total money generated on this date'], tablefmt='psql'))
                print("\n\nYour desired report is generated and SAVED")
                file=open("report","r")
                print(file.read())
            except:
                print("value error")
                continue
        elif (jk3==14):
            print("REPORT CHOSEN: 14. Average Money generated per patient")
            print("\nTo keep the results of this report fair and exact, the data mentioned below is SOLELY based on patients who
have already been discharged till date")
            sql14a="select*from bill"
            mycursor.execute(sql14a)
            myresult14a=mycursor.fetchall()
            sql14b="select sum(Total_Cost) from bill"
            mycursor.execute(sql14b)
            myresult14b=mycursor.fetchall()
            sql14c="select count(Patient_ID) from bill"
            mycursor.execute(sql14c)
            myresult14c=mycursor.fetchall()
            sql14d="select avg(Total_Cost) from bill"
            mycursor.execute(sql14d)
            myresult14d=mycursor.fetchall()
            if myresult14a==[] or myresult14b==[] or myresult14c==[] or myresult14d==[]:
                print("No patients have yet paid the bill, the report cannot be generated yet")
                continue
            else:
                from tabulate import tabulate
                file=open("report","w")

```

```

print("\n\nGenerating your report...")

file.write("This report contains the total amount of money generated on a specific date")

file.write("""
=====

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=====

""")

file.write("\n")
file.write(tabulate(myresult14a, headers=['Bill no','Patient ID','Doctor ID','Number of days admitted','Total cost
of patient','Cost per day'], tablefmt='psql'))
file.write("\n")
file.write(tabulate(myresult14b, headers=['Total money generated from these patients'], tablefmt='psql'))
file.write("\n")
file.write(tabulate(myresult14c, headers=['Total patients who have paid the bill'], tablefmt='psql'))
file.write("\n")
file.write(tabulate(myresult14d, headers=['AVERAGE COST GENERATED PER PATIENT'], tablefmt='psql'))
print("\n\nYour desired report is generated and SAVED")
file=open("report","r")
print(file.read())

elif (jk3==15):
    print("REPORT CHOSEN: 15. Details of academic excellence of doctors (average marks scored)")
    sql15c="select Doctors_First_Name, Doctors_Last_Name, marks from doctor"
    mycursor.execute(sql15c)
    myresult15c=mycursor.fetchall()
    sql15d="select avg(marks) from doctor"
    mycursor.execute(sql15d)
    myresult15d=mycursor.fetchall()
    if myresult15d==[] or myresult15c==[]:
        print("No doctors are registered in this database, the report cannot be generated yet")
        continue
    else:
        from tabulate import tabulate
        file=open("report","w")
        print("\n\nGenerating your report...")

        file.write("This report contains average marks of doctors")

        file.write("""
=====

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=====

""")

        file.write("\n")
        file.write(tabulate(myresult15c, headers=['Doctors First Name', 'Doctors Last Name', 'Marks scored'],
tablefmt='psql'))
        file.write("\n\n")
        file.write(tabulate(myresult15d, headers=['AVERAGE MARKS SCORED BY DOCTORS'], tablefmt='psql'))
        print("\n\nYour desired report is generated and saved and SAVED")
        file=open("report","r")
        print(file.read())

    else:
        print("INVALID INPUT")
        continue

elif (jk==4):
    jk4=int(input("Enter the particular report number from the aforementioned reports: "))
    if (jk4==16):
        print("REPORT CHOSEN: 16. Total number of rooms occupied and unoccupied currently")
        sql16a="select * from room"
        mycursor.execute(sql16a)
        myresult16a=mycursor.fetchall()
        sql16b="select count(Room_No) from room"
        mycursor.execute(sql16b)
        myresult16b=mycursor.fetchall()
        if myresult16a==[] or myresult16b==[]:
            print("No doctors are registered in this database, the report cannot be generated yet")
            continue
        else:
            from tabulate import tabulate
            file=open("report","w")
            print("\n\nGenerating your report file ...")

            file.write("This report contains average marks of doctors")

            file.write("""
=====

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=====

""")

            file.write("\n")
            file.write(tabulate(myresult16a, headers=['Room number','Patient ID', 'Type of room', 'Cost per day'],
tablefmt='psql'))
            file.write("\n")
            file.write(tabulate(myresult16b, headers=['NUMBER OF ROOMS OCCUPIED AT THIS MOMENT'], tablefmt='psql'))
            file.write("\n")
            file.write("Total capacity of this hospital is: 999 beds")
            file.write("\n")
            file.write("Total number of unoccupied rooms are: " +str(999-myresult16b[0][0]))
            print("\n\nYour desired report is generated and SAVED.")
            file.close()
            file=open("report","r")
            print(file.read())

    else:
        print("INVALID INPUT")

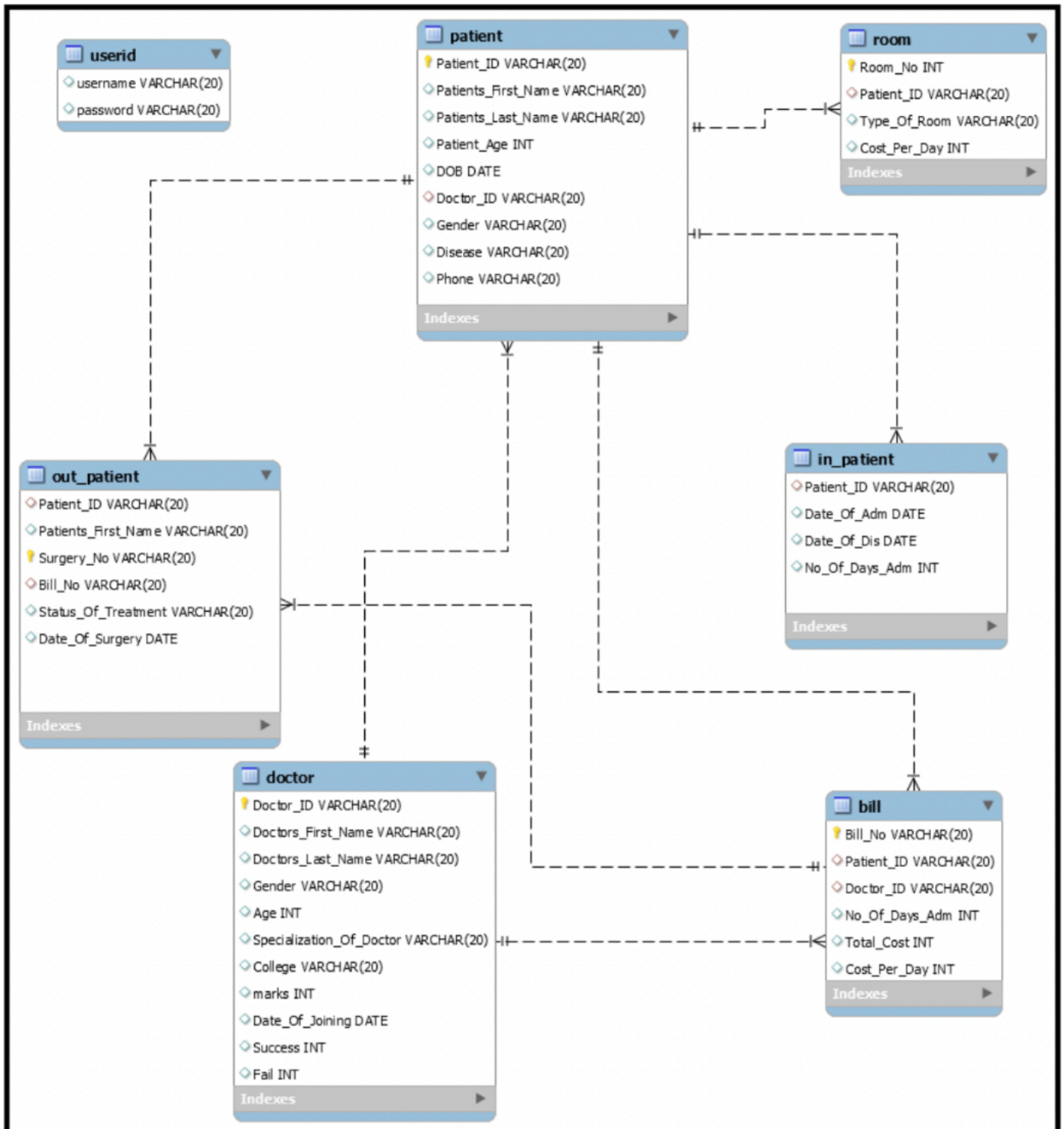
```

```

        continue
    else:
        print("INVALID INPUT")
        continue

```

## ENTITY RELATIONSHIP DIAGRAM



## Screenshots of Output (Inclusive of reports):

```
LOGIN PAGE

1.SIGN UP IF YOU ARE NEW
2.LOGIN IF YOU ARE ALREADY REGISTERED
enter choice: 1
ENTER USERNAME: (password should be atleast 6 characters long and containing atleast 1 numeric character)madhav14
username is available and registered. Please proceed to set password
ENTER PASSWORD: please select a strong password and dont share it with anyone madhav1234
YOU HAVE BEEN REGISTERED. WELCOME.

=====

WELCOME TO NEWLIFE HOSPITALS PVT. LTD.

=====

LOGIN PAGE

1.SIGN UP IF YOU ARE NEW
2.LOGIN IF YOU ARE ALREADY REGISTERED
enter choice: 2
ENTER USERNAME: madhav14
ENTER PASSWORD: madhav1234
Searching for your username...
Username and password match. Welcome

MENU

1.Patient Details
2.Calculate bill
3.Update or delete my records
```

```
1.Patient Details
2.Calculate bill
3.Update or delete my records
4.Request my report
5.open doctors' details
6.Exit

Enter choice: 1

WELCOME TO PATIENT DATABASE

Enter Patient's first name:rouhan
enter patient's last name: sahgai
enter patient's age: 13
Gender of Patient:male
Now, please state the reason of your discomfort or name of the disease you're suffering from:
disease:fever
Great! Now we will be assigning you your Patient ID and the ID of the doctor assigned to you
Your PatientID
M4O6AJ
remember it
DoctorID
8KQW2E
remember it
Phone no.: 9898767656
patient's DOB
Enter year (YYYY): 2009
Enter month (MM): 10
Enter date (DD): 19
Now, please select which type of room you desire:
ROOMS
1. General ward
2. Semi private room
3. Private room
4. Suite
enter your choice3
your room is Private room and cost per day is 18000
your room number is 713

Your details have been inserted successfully
```

```

Enter choice: 5
                                WELCOME TO DOCTOR DATABASE

THESE DETAILS CAN ONLY BE PRIVY TO ADMIN STAFF OF THIS HOSPITAL

choose from the following:

1. Operation details
2. Register as a doctor
3. Back to Main Menu
Enter your choice :2
We will require some of your academic qualifications and personal details before assigning you this job,
Enter candidate's first name:madhav
enter candidate's last name: gulati
enter candidate's age: 35
Gender of candidate :male
enter the institute from where you achieved MBBS degree: AIIMS
enter your marks scored in college: 94
Now, please choose your area of expertise :
1. Cardiologist
2. Dermatologist
3. Surgeon
4. Gynecologist
5. Orthodontist
6. Other
enter your choice: 3
Are you suffering from any major disease? (Y/N)
choice: n
Great! Now we will be evaluating your information and reviewing your application
YOUR CANDIDANCY WAS CONSIDERED AND WE ARE GLAD TO INFORM YOU THAT YOU ARE GIVEN THE JOB. WELCOME ABOARD!

When would you like to start?
DATE OF JOINING
Enter year (YYYY): 2020
Enter month (MM): 12
Enter date (DD): 10
Entered date of joining 2020-12-10
YOU CAN START WORKING FROM 2020-12-10 !!

NOW YOU WILL BE ASSIGNED YOUR UNIQUE DOCTOR ID. AVOID SHARING IT WITH ANYONE.
DO7F5T

```

```

2.Calculate bill
3.Update or delete my records
4.Request my report
5.open doctors' details
6.Exit

Enter choice: 2
enter your patientid: M406AJ
Is your first name rouhan ?
type Y for yes and N for no: y
when did you get admitted?
date of admission
Enter year (YYYY): 2020
Enter month (MM): 12
Enter date (DD): 08
When are you getting discharged?
date of discharge
Enter year (YYYY): 2020
Enter month (MM): 12
Enter date (DD): 14
Date of admission 2020-12-8
Date of discharge 2020-12-14
Number of days of treatment 6

```

```

Are the following details
Type of room: Private room
Cost per Day: 18000
correct? Do you wish to proceed
type Y for yes and N for no: y
Total cost for your treatment rouhan is 108000

Your details have been inserted successfully
Your billno is 7GCPE5 do you wish to see the bill now?
type Y for yes and N for no: y
your bill will be generated shortly. Thank you
HOSPITAL MANAGEMENT SYSTEM

Patient's Name: rouhan
Patient ID: M4O6AJ
Disease: ('fever',)
Date Of Admission: 2020-12-8
Date of Discharge: 2020-12-14
Number of days of treatment: 6
Type of room: Private room
Cost per day of room: 18000

TOTAL COST: 108000
file has been saved to your system with the name 7GCPE5.txt

YOUR ROOM IS NOW READY TO BE VACATED AND CLEANED FOR THE NEXT PATIENT.

THANK YOU FOR CHOOSING OUR FACILITIES FOR YOUR TREATMENT. WE HOPE THAT OUR SERVICES PROVIDED TO YOU WERE SATISFACTORY
Have a nice day, please dont forget to leave your feedback!

```

```

WELCOME TO DOCTOR DATABASE

THESE DETAILS CAN ONLY BE PRIVY TO ADMIN STAFF OF THIS HOSPITAL

choose from the following:

1. Operation details
2. Register as a doctor
3. Back to Main Menu
Enter your choice :1
OPERATION DETAILS
Enter your doctorid: 8KQW2E
Welcome, Rohan Jain

input the patient id of the patient under observation
Enter the patient id: M4O6AJ

Patient's Name: rouhan sahgal

Gender: male
Age: 13
Patient's Disease: fever

DO YOU CONFIRM THESE DETAILS AND WANT TO PROCEED? (Y/N): y
surgery number is, 2CQ34S
Now, please enter the date of this operation
Enter the year of operation2020
Enter the month of operation12
Enter the date of operation10
Entered date of surgery 2020-12-10
Now, please input the details of this operation

Select one of the options which best suited to the operation status
1. Operation successful, patient can be discharged at will
2. Operation successful, patient still needs to be under hospital care due to complications which may arise
3. Operation not successful, patient should be kept under special care.
4. Operation not successful, patient could not be saved.

Enter most viable option: 2
OPERATION DETAILS INSERTED SUCCESSFULLY.

```

```
Enter choice: 3
                UPDATION AND DELETION OF RECORDS
```

```
Are you a patient or a doctor?
```

- 1. DOCTOR
- 2. PATIENT

```
enter your choice: 2
```

```
Please enter your Patient ID for authentication
```

```
Patient id: M4O6AJ
```

```
Welcome rouhan sahgai !!
```

```
Do you wish to:
```

- 1. UPDATE RECORDS
  - 2. DELETE RECORDS
- ```
Please select 1 or 2
```

```
1
```

```
here are some of the details you can edit:
```

- 1. Patient Age
- 2. Disease the patient is suffering from
- 3. contact details of the patient
- 4. Request to change another room
- 5. Back to main menu

```
enter your choice: 1
```

```
Please enter your age: 47
```

```
Your new age registered in the database is 47
```

```
Enter choice: 3
                UPDATION AND DELETION OF RECORDS
```

```
Are you a patient or a doctor?
```

- 1. DOCTOR
- 2. PATIENT

```
enter your choice: 2
```

```
Please enter your Patient ID for authentication
```

```
Patient id: M4O6AJ
```

```
Welcome rouhan sahgai !!
```

```
Do you wish to:
```

- 1. UPDATE RECORDS
  - 2. DELETE RECORDS
- ```
Please select 1 or 2
```

```
1
```

```
here are some of the details you can edit:
```

- 1. Patient Age
- 2. Disease the patient is suffering from
- 3. contact details of the patient
- 4. Request to change another room
- 5. Back to main menu

```
enter your choice: 2
```

```
The original disease registered in the database is covid 19
```

```
Enter your new disease : malaria
```

```
Details have been edited
```

```
YOUR DISEASE WAS CHANGED FROM covid 19 TO malaria
```

```
Enter choice: 3
          UPDATION AND DELETION OF RECORDS

Are you a patient or a doctor?
1. DOCTOR
2. PATIENT
enter your choice: 2
Please enter your Patient ID for authentication
Patient id: M406AJ
Welcome rouhan sahgal !!

Do you wish to:
1. UPDATE RECORDS
2. DELETE RECORDS
Please select 1 or 2
1
here are some of the details you can edit:
1. Patient Age
2. Disease the patient is suffering from
3. contact details of the patient
4. Request to change another room
5. Back to main menu
enter your choice: 3
[('9898787324',)]

The original phone number entered was 9898787324
n Now, please enter the new phone number
Phone no.: 9876234561
Details have been edited

YOUR PHONE NUMBER WAS CHANGED FROM 9898787324 TO 9876234561
```

```
Enter choice: 3
          UPDATION AND DELETION OF RECORDS

Are you a patient or a doctor?
1. DOCTOR
2. PATIENT
enter your choice: 2
Please enter your Patient ID for authentication
Patient id: M406AJ
Welcome rouhan sahgal !!

Do you wish to:
1. UPDATE RECORDS
2. DELETE RECORDS
Please select 1 or 2
1
here are some of the details you can edit:
1. Patient Age
2. Disease the patient is suffering from
3. contact details of the patient
4. Request to change another room
5. Back to main menu
enter your choice: 4
You have already been discharged. There is no room allotted to you as per our records.
```



Enter choice: 3  
UPDATION AND DELETION OF RECORDS

Are you a patient or a doctor?

1. DOCTOR
2. PATIENT

enter your choice: 2

Please enter your Patient ID for authentication

Patient id: XK4AP8

Welcome kavita gulati !!

Do you wish to:

1. UPDATE RECORDS
  2. DELETE RECORDS
- Please select 1 or 2

1

here are some of the details you can edit:

1. Patient Age
2. Disease the patient is suffering from
3. contact details of the patient
4. Request to change another room
5. Back to main menu

enter your choice: 4

As per our records, your current room details are:

ROOM NO: 157

TYPE OF ROOM: Private room

COST PER DAY OF ROOM: 18000

Now, please select which type of room you desire:

ROOMS

1. General ward
2. Semi private room
3. Private room
4. Suite

enter your choice: 4

your new selected room is Suite and cost per day is 21000

your new room number is 523

Your details have been updated successfully

Are you a patient or a doctor?

1. DOCTOR
2. PATIENT

enter your choice: 2

Please enter your Patient ID for authentication

Patient id: M406AJ

Welcome rouhan sahgal !!

Do you wish to:

1. UPDATE RECORDS
  2. DELETE RECORDS
- Please select 1 or 2

2

WARNING: DELETION OF DETAILS WILL RESULT IN REMOVAL OF ALL YOUR DETAILS FROM THE DATABASE. THIS ACTION CANNOT BE UNDONE.

ARE YOU SURE YOU WANT TO CONTINUE?

1. I agree, remove my details from this hospital
2. No, back to main menu

enter your choice: 1

Deletion of details requested by user...

Waiting for request to be accepted..

The process of complete deletion of your details has started. This might take a minute

...

Details have been successfully deleted

Enter choice: 3

## UPDATION AND DELETION OF RECORDS

Are you a patient or a doctor?

1. DOCTOR
2. PATIENT

enter your choice: 1

Please enter your doctor id for authentication

Doctor id: 8KQW2E

Welcome Rohan Jain !!

Do you wish to:

1. UPDATE RECORDS
2. DELETE RECORDS

Please select 1 or 2

1

Here are some of the details you can edit:

1. Your specialisation
2. Your age
3. Date of a particular surgery
4. Status of treatment of patient
5. Back to previous page

1

Now, please choose your new area of expertise :

1. Cardiologist
2. Dermatologist
3. Surgeon
4. Gynecologist
5. Orthodontist
6. Other

enter your choice: 2

Your new specialization registered in the database is Dermatologist

Please enter your doctor id for authentication

Doctor id: 8KQW2E

Welcome Rohan Jain !!

Do you wish to:

1. UPDATE RECORDS
2. DELETE RECORDS

Please select 1 or 2

1

Here are some of the details you can edit:

1. Your specialisation
2. Your age
3. Date of a particular surgery
4. Status of treatment of patient
5. Back to previous page

2

Please enter your age: 37

Your new age registered in the database is 37

Enter choice: 3  
UPDATION AND DELETION OF RECORDS

Are you a patient or a doctor?

1. DOCTOR
2. PATIENT

enter your choice: 1

Please enter your doctor id for authentication

Doctor id: 8KQW2E

Welcome Rohan Jain !!

Do you wish to:

1. UPDATE RECORDS
  2. DELETE RECORDS
- Please select 1 or 2

1

Here are some of the details you can edit:

1. Your specialisation
2. Your age
3. Date of a particular surgery
4. Status of treatment of patient
5. Back to previous page

3

Enter the surgery number provided during the surgeryRLHKU1

The previously entered date of surgery for patient madhav was 2020-12-09

Please edit the date of surgery

Enter the year of operation2020

Enter the month of operation12

Enter the date of operation08

Entered date of surgery 2020-12-08

Your new date of surgery registered in the database is 2020-12-08

Please enter your doctor id for authentication

Doctor id: 8KQW2E

Welcome Rohan Jain !!

Do you wish to:

1. UPDATE RECORDS
  2. DELETE RECORDS
- Please select 1 or 2

1

Here are some of the details you can edit:

1. Your specialisation
2. Your age
3. Date of a particular surgery
4. Status of treatment of patient
5. Back to previous page

4

Enter the surgery number provided during the surgeryRLHKU1

The previously entered status of treatment for patient madhav was fail, critical

Please edit the status of treatment

Select one of the options which best suited to the operation status

1. Operation successful, patient can be discharged at will
2. Operation successful, patient still needs to be under hospital care due to complications which may arise
3. Operation not successful, patient should be kept under special care.
4. Operation not successful, patient could not be saved.

Enter most viable option: 3

OPERATION DETAILS UPDATED SUCCESSFULLY.

Please enter your doctor id for authentication

Doctor id: 8KQW2E

Welcome Rohan Jain !!

Do you wish to:

1. UPDATE RECORDS
2. DELETE RECORDS

Please select 1 or 2

2

WARNING: DELETION OF DETAILS WILL RESULT IN REMOVAL OF ALL YOUR DETAILS FROM THE DATABASE. THIS ACTION CANNOT BE UNDONE.

ARE YOU SURE YOU WANT TO CONTINUE?

1. I agree, remove my details from this institution
2. No, back to main menu

enter your choice: 1

Deletion of details requested by user...

Waiting for request to be accepted..

The process of complete deletion of your details has started. This might take a minute

...

Details have been successfully deleted

Enter choice: 4

#### REPORT GENERATION

Here are the following data we can provide to a user about the hospital

##### ABOUT THE PATIENT:

1. All the information about a particular patient
2. Total no patients treated in the hospital
3. Total number of people having same disease/Injury
4. Name of those people who stayed for specific amount of days
5. Info of people who were admitted on a specific date
6. Info of people who were discharged on a specific date
7. Patients who had similar disease segregated on the basis of their gender
8. Info of those patients having similar disease in a particular age group
9. People who had similar disease and for how many days they were admitted

##### About the doctor:

10. Number of surgery done by a specific doctor
11. Name of those doctors having same field of expertise
12. Success rate of surgery and doctor having highest success rate

##### Cash Flow and Misc:

13. Total money generated on a specific day
14. Average Money generated per patient
15. Details of academic excellence of doctors (average marks scored)

##### Rooms:

16. Total Numbers of rooms occupied and unoccupied in a day

Which report do you desire to generate?

1. ABOUT THE PATIENT
2. ABOUT THE DOCTOR
3. CASH FLOW
4. ROOMS

Enter your choice (1/2/3/4): 1

Enter your choice (1/2/3/4): 1  
 Enter the particular report number from the aforementioned PATIENT reports: 1  
 REPORT CHOSEN: 1. All the information about a particular patient  
 Enter the patientid of the particular patient: JNP363

Generating your report...  
 This report contains all details of the patient entered at the time of admission

=====

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=====

Patient ID	Patients first Name	Patients Last Name	Patients Age	DOB	Doctor ID	Gender	Disease	Phone
JNP363	deepak	gakhar	54	1966-08-09	I8SUAO	male	back pain	6578495867

Your desired report is generated and SAVED

Enter the particular report number from the aforementioned PATIENT reports: 2  
 REPORT CHOSEN: 2. Total no patients treated in the hospital

Generating your report...  
 This report contains the number of patients admitted in the hospital and their names

=====

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=====

Patient ID	Patients first Name	Patients Last Name
EZAKTH	davitya	kumar
GHPSL7	satish	gulati
HWMYFN	kabir	gakhar
JDBKIE	aryan	kapoor
JNP363	deepak	gakhar
KDM7E9	bhavya	gakhar
XK4AP8	kavita	gulati

Number of Patients
7

Your desired report is generated and SAVED

REPORT CHOSEN: 3. Total number of people having same disease/Injury

Generating your report...  
 This report contains the number of patients admitted in the hospital, suffering from the same disease/injury

=====

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=====

Patients having particular disease	Disease
3	cold
2	back pain
1	cancer
1	fracture

Your desired report is generated and SAVED

REPORT CHOSEN: 4. Name of those people who stayed for specific amount of days  
Enter a specific number of days of treatment4

Generating your report...  
This report contains the name and ID of patients admitted in the hospital for4days

=====

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=====

Patients First Name	Patient ID
kabir	HWMYFN
bhavya	KDM7E9

Your desired report is generated and SAVED.

REPORT CHOSEN: 5. Info of people who were admitted on a specific date  
Date of admission  
Enter the year of admission (YYYY): 2020  
Enter the month of admission (MM): 12  
Enter the date of admission (DD): 02

Generating your report...  
This report contains the details of patients admitted on2020-12-02

=====

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=====

Patient ID	Patients First Name	Patients Last Name	Disease	Gender	Age
HWMYFN	kabir	gakhar	cancer	male	23

Your desired report is generated and SAVED

REPORT CHOSEN: 6. Info of people who were discharged on a specific date  
Date of discharge  
Enter the year of discharge (YYYY): 2020  
Enter the month of discharge (MM): 11  
Enter the date of discharge (DD): 27

Generating your report...This report contains the details of patients discharged on2020-11-27

=====

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=====

Patient ID	Patients First Name	Patients Last Name	Disease	Gender	Age
KDM7E9	bhavya	gakhar	cold	male	20

Your desired report is generated and SAVED

REPORT CHOSEN: 7. Patients who had similar disease segregated on the basis of their gender  
 There are 4 distinct diseases in our database  
 choose any one  
 1 . cold  
 2 . back pain  
 3 . cancer  
 4 . fracture  
 Enter disease number: 1

Now, the system will calculate data regarding this disease based on different genders  
 CHOSEN DISEASE: cold

Generating your report...  
 This report contains the details of patients having disease cold

=====

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=====

Total number of patients having cold are 3

Number of female patients having the disease	0
Number of male patients having the disease	3
Number of other patients having the disease	0

Amongst all the patients infected with this disease:

Male people infected with cold are: 0.0 %

Female people infected with cold are: 100.0 %

Other people infected with cold are: 0.0 %

Your desired report is generated and SAVED

Enter the particular report number from the aforementioned PATIENT reports: 8  
 REPORT CHOSEN: 8. Info of those patients having similar disease in a particular age group  
 Define Age Group  
 Enter starting age of this particular age group: 20  
 Enter ending age of this particular age group: 50  
 There are 2 distinct disease(s) in our database  
 1 . cancer  
 2 . cold

Generating your report...

Your desired report is generated and SAVED  
 This report contains the details of patients in age group20-50

=====

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=====

Total number of patients in particular age group: 2

Number of patients having the disease	Disease
1	cancer
1	cold

Percentage of people having this disease in the given age group is:50.0%

Number of patients having the disease	Disease
1	cold

Percentage of people having this disease in the given age group is:50.0%

REPORT CHOSEN: 10. Number of surgery done by a specific doctor  
Enter the doctorid of the particular doctor: D07F5T

Generating your report...

Your desired report is generated and SAVED  
This report contains details of the doctor inclusive of total number of surgeries performed by a particular doctor

=====

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=====

Doctor ID	Doctors first Name	Doctors Last Name	Specialization	Total number of surgeries done
D07F5T	madhav	gulati	Surgeon	1

REPORT CHOSEN: 11. Name of those doctors having same field of expertise  
There are 2 distinct specialization(s) of doctors in our database currently  
1 . Surgeon  
2 . Cardiologist

Generating your report...

Your desired report is generated and SAVED  
This report contains the details of doctors having same field of expertise

=====

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=====

Specialization : Surgeon

Doctors First Name	Doctors Last Name	Specialization Of Doctor
madhav	gulati	Surgeon

Specialization : Cardiologist

Doctors First Name	Doctors Last Name	Specialization Of Doctor
manish	gulati	Cardiologist

REPORT CHOSEN: 12. Success rate of surgery and doctor having highest success rate

Generating your report...This report contains the details of doctors and the doctor having the highest success rate

=====

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=====

Doctor ID: D07F5T  
Doctors First Name: madhav  
Doctors Last Name: gulati  
Field of expertise: Surgeon  
Number of successful operations: 1  
Number of unsuccessful operations: 0

SUCCESS RATE OF SURGERY DONE BY THIS PARTICULAR DOCTOR: 100%

Doctor ID: I8SUAO  
Doctors First Name: manish  
Doctors Last Name: gulati  
Field of expertise: Cardiologist  
Number of successful operations: 0  
Number of unsuccessful operations: 0

SUCCESS RATE OF SURGERY DONE BY THIS PARTICULAR DOCTOR: 0%

Highest success rate of surgery done by a doctor is: 100%  
The doctor who has the highest success rate is madhav gulati

Your desired report is generated and SAVED



REPORT CHOSEN: 13. Total money generated on a specific day  
Enter the year of discharge (YYYY): 2020  
Enter the month of discharge (MM): 11  
Enter the date of discharge (DD): 27

Generating your report...

Your desired report is generated and SAVED  
This report contains the total amount of money generated on a specific date

=====

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=====

Patient ID	Total Cost of this patient	Date of discharge
KDM7E9	72000	2020-11-27
Total money generated on this date		
	72000	

REPORT CHOSEN: 14. Average Money generated per patient

To keep the results of this report fair and exact, the data mentioned below is SOLELY based on patients who have already been discharged till date

Generating your report...

Your desired report is generated and SAVED  
This report contains the total amount of money generated on a specific date

=====

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=====

Bill no	Patient ID	Doctor ID	Number of days admitted	Total cost of patient	Cost per day
DLJOWN	KDM7E9	DO7F5T	4	72000	18000
UT7HOJ	HWMYFN	DO7F5T	4	64000	16000
Total money generated from these patients					
136000					
Total patients who have paid the bill					
2					
AVERAGE COST GENERATED PER PATIENT					
68000					

REPORT CHOSEN: 15. Details of academic excellence of doctors (average marks scored)

Generating your report...

Your desired report is generated and saved and SAVED  
This report contains average marks of doctors

=====

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=====

Doctors First Name	Doctors Last Name	Marks scored
madhav	gulati	94
manish	gulati	94
AVERAGE MARKS SCORED BY DOCTORS		
94		

REPORT CHOSEN: 16. Total number of rooms occupied and unoccupied currently

Generating your report file ...

Your desired report is generated and SAVED.  
This report contains average marks of doctors

=====

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=====

Room number	Patient ID	Type of room	Cost per day
523	XK4AP8	Suite	21000
587	JDBKIE	Private room	18000
603	JNP363	Private room	18000
832	GHPSL7	Private room	18000
988	EZAKTH	Suite	21000

=====

NUMBER OF ROOMS OCCUPIED AT THIS MOMENT
5

=====

Total capacity of this hospital is: 999 beds  
Total number of unoccupied rooms are: 994