HOSPITAL INFORMATION MANAGEMENT SYSTEM

INDEX

INTRODUCTION

The given python project created with **tkinter** and **mysql-connector** uses a combination of several user-defined and inbuilt functions to create a seamless management system for a hospital with an interactive user interface. The given program includes the following uses:

- Patient Registration
- Listing all doctors currently in database
- List of services available with location
- View data of patient, using aadhar card number
- View appointments
- Modify existing patient records

This project consists of over 500 lines of code and has been heavily optimized to ensure it runs on most computers very smoothly.

DEVELOPMENT

This project has gone through multiple stages from the starting till the current version we have right now. Initially, in **Draft 1**, this project was just a console driven menu program, with no implementation of a database structure. Hence, the interface was very complicated to navigate, and the data stored would be deleted when the program was closed.

In **Draft 2,** mysql.connector module had been implemented to make it so that the user can update values on the console, and still see this updated values if he restarts, shuts down, and changes his device.

Finally, in the current **Draft 3**, we have learnt to use the tkinter module to create a graphical user interface to make navigation of the program much simpler than ever before.

SOURCE CODE

```
import tkinter.messagebox
from tkinter import  *
import mysql.connector as sqlcon
import random as rd
passw=input("Enter your mysql password:")
con=sqlcon.connect(host="localhost",user="root",password=passw)#connection to mysql
cur=con.cursor()
cur = con.cursor(buffered=True)
if (con):
    # Carry out normal procedure
    print ("Connection successful")
else:
    print ("Connection unsuccessful")
cur.execute("create database if not exists Hospital")
cur.execute("use Hospital")
cur.execute("create table if not exists appointment"
            "("
            "idno varchar(12) primary key,"
            "name char(50),"
            "age char(3),"
            "gender char(1),"
            "phone varchar(10),"
            "bg varchar(3))")
cur.execute("create table if not exists appointment_details"
            "("
            "idno varchar(12) primary key,"
            "doctor varchar(50),"
            "date varchar(20),"
            "time varchar(20),"
            "appointment_no varchar(10))")

#  Message for registration
def entry():
    global e1,e2,e3,e4,e5,e6
    p1=e1.get()
    p2=e2.get()
    p3=e3.get()
    p4=e4.get()
    p5=e5.get()
    p6=e6.get()
```

```
    query='insert into appointment values("{}", "{}", "{}", "{}", "{}",
"{}")'.format(p1,p2,p3,p4,p5,p6)
    con.commit()
    cur.execute(query)



    tkinter.messagebox.showinfo("DONE", "YOU HAVE BEEN REGISTERED")

#  For registration
def register():
    global e1,e2,e3,e4,e5,e6
    root1=Tk()
    label=Label(root1,text="REGISTER YOURSELF",font='arial 25 bold')
    label.pack()
    frame=Frame(root1,height=500,width=200)
    frame.pack()
    l1=Label(root1,text="AADHAR CARD NO.")
    l1.place(x=10,y=130)
    e1=tkinter.Entry(root1)
    e1.place(x=100,y=130)
    l2=Label(root1,text="NAME")
    l2.place(x=10,y=170)
    e2=tkinter.Entry(root1)
    e2.place(x=100,y=170)
    l3=Label(root1,text="AGE")
    l3.place(x=10,y=210)
    e3=tkinter.Entry(root1)
    e3.place(x=100,y=210)
    l4=Label(root1,text="GENDER M\F")
    l4.place(x=10,y=250)
    e4=tkinter.Entry(root1)
    e4.place(x=100,y=250)
    l5=Label(root1,text="PHONE")
    l5.place(x=10,y=290)
    e5=tkinter.Entry(root1)
    e5.place(x=100,y=290)
    l6=Label(root1,text="BLOOD GROUP")
    l6.place(x=10,y=330)
    e6=tkinter.Entry(root1)
    e6.place(x=100,y=330)
    b1=Button(root1,text="SUBMIT",command=entry)
```

```
    b1.place(x=150,y=370)


    root.resizable(False,False)
    root1.mainloop()

#  Message for appointment
def apo_details():
    global x1,x2,h,p1,p2,p3,o,x4,x3
    p1=x2.get()
    p2=x3.get()
    p3=x4.get()
    if int(p1)==1:
        i=("Dr. sharma \nRoom no:- 10")
        j=("Dr. Verma \nRoom no:- 11")
        q=(i,j)
        h=rd.choice(q)
        u=(23,34,12,67,53,72)
        o=rd.choice(u)
        det=("Your appointment is fixed with",h,
             "\nDate:-",p2,
             "\nTime:-",p3,
             '\nappointment no:-',o)

        query='insert into appointment_details values("{}", "{}", "{}", "{}",
"{}")'.format(p1,h,p2,p3,o)
        cur.execute(query)
        tkinter.messagebox.showinfo("APPOINTMENT DETAILS",det)

    elif int(p1)==2:
        i=("Dr. Sidharth \nRoom no. 16")
        j=("Dr. Tendulkar \nRoom no. 17")
        q=(i,j)
        h=rd.choice(q)
        u=(23,34,12,67,53,72)
        o=rd.choice(u)
        det=("Your appointment is fixed with",h,
             "\nDate:-",p2,
             "\nTime:-",p3,
             '\nappointment no:-',o)
        query='insert into appointment_details values("{}", "{}", "{}", "{}",
"{}")'.format(p1,h,p2,p3,o)
        cur.execute(query)
```

```
        tkinter.messagebox.showinfo("APPOINTMENT DETAILS",det)

    elif int(p1)==3:
        i=("Dr. Kumar \nRoom no. 12")
        j=("Dr. Khan \nRoom no. 13")
        q=(i,j)
        h=rd.choice(q)
        u=(23,34,12,67,53,72)
        o=rd.choice(u)
        det=("Your appointment is fixed with",h,
             "\nDate:-",p2,
             "\nTime:-",p3,
             '\nappointment no:-',o)
        query='insert into appointment_details values("{}", "{}", "{}", "{}",
"{}")'.format(p1,h,p2,p3,o)
        cur.execute(query)
        tkinter.messagebox.showinfo("APPOINTMENT DETAILS",det)

    elif int(p1)==4:
        i=("Dr. Virat, \nRoom no. 18")
        j=("Dr. Leo \nRoom no. 19")
        q=(i,j)
        h=rd.choice(q)
        u=(23,34,12,67,53,72)
        o=rd.choice(u)
        det=("Your appointment is fixed with",h,
             "\nDate:-",p2,
             "\nTime:-",p3,
             '\nappointment no:-',o)
        query='insert into appointment_details values("{}", "{}", "{}", "{}",
"{}")'.format(p1,h,p2,p3,o)
        cur.execute(query)
        tkinter.messagebox.showinfo("APPOINTMENT DETAILS",det)
    elif int(p1)==5:
        i=("Dr. Kohli \nRoom no. 14")
        j=("Dr. singh \nRoom no. 15")
        q=(i,j)
        h=rd.choice(q)
        u=(23,34,12,67,53,72)
        o=rd.choice(u)
        det=("Your appointment is fixed with",h,
             "\nDate:-",p2,
             "\nTime:-",p3,
```

```
            '\nappointment no:-',o)
        query='insert into appointment_details values("{}", "{}", "{}", "{}",
"{}")'.format(p1,h,p2,p3,o)
        cur.execute(query)
        tkinter.messagebox.showinfo("APPOINTMENT DETAILS",det)
    elif int(p1)==6:
        i=("Dr. Irfan \nRoom no. 001")
        j=("Dr. John \nRoom no. 002")
        k=("Dr. Sanjay \nRoom no. 003")
        l=("Dr. Shahid \nRoom no. 004")
        q=(i,j,k,l)
        h=rd.choice(q)
        u=(23,34,12,67,53,72)
        o=rd.choice(u)
        det=("Your appointment is fixed with",h,
             "\nDate:-",p2,
             "\nTime:-",p3,
             '\nappointment no:-',o)
        query='insert into appointment_details values("{}", "{}", "{}", "{}",
"{}")'.format(p1,h,p2,p3,o)
        cur.execute(query)
        tkinter.messagebox.showinfo("APPOINTMENT DETAILS",det)
    else:
        tkinter.messagebox.showwarning('WRONG INPUT','PLEASE ENTER VALID VALUE')

#  For appointment
def get_apoint():
    global x1,x2,x3,x4
    p1=x1.get()
    cur.execute('select * from appointment where idno=(%s)',(p1,))
    dat=cur.fetchall()
    a=[]
    for i in dat:
        a.append(i)
    if len(a)==0:
        tkinter.messagebox.showwarning("ERROR", "NO DATA FOUND!!")
    else:
        root3=Tk()
        label=Label(root3,text="APPOINTMENT",font='arial 25 bold')
        label.pack()
        frame=Frame(root3,height=500,width=300)
        frame.pack()
        if i[3]=='M' or i[3]=='m':
```

```
            x="Mr."
            name2=Label(root3,text=i[1])
            name2.place(x=140,y=80)
        else:
            x="Mrs\Ms."
            name2=Label(root3,text=i[1])
            name2.place(x=170,y=80)
        for i in dat:
            name=Label(root3,text='WELCOME')
            name.place(x=50,y=80)
            name1=Label(root3,text=x)
            name1.place(x=120,y=80)
            age=Label(root3,text='AGE:-')
            age.place(x=50,y=100)
            age1=Label(root3,text=i[2])
            age1.place(x=100,y=100)
            phone=Label(root3,text='PHONE:-')
            phone.place(x=50,y=120)
            phone1=Label(root3,text=i[4])
            phone1.place(x=100,y=120)
            bg=Label(root3,text='BLOOD GROUP:-')
            bg.place(x=50,y=140)
            bg1=Label(root3,text=i[5])
            bg1.place(x=150,y=140)


        L=Label(root3,text='DEPARTMENTS')
        L.place(x=50,y=220)
        L1=Label(root3,text="1.Orthopaedic surgeon ")
        L1.place(x=50,y=250)
        L2=Label(root3,text='2.Physician')
        L2.place(x=50,y=270)
        L3=Label(root3,text='3.Nephrologist')
        L3.place(x=50,y=290)
        L4=Label(root3,text='4.Neurologist')
        L4.place(x=50,y=310)
        L5=Label(root3,text='5.Gynaecologist')
        L5.place(x=50,y=330)
        L6=Label(root3,text='6.X-ray')
        L6.place(x=50,y=350)
        L7=Label(root3,text='Enter your choice')
        L7.place(x=100,y=370)
        x2=tkinter.Entry(root3)
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```
        x2.place(x=200,y=370)

        L7=Label(root3,text=('enter date')).place(x=100,y=400)
        x3=tkinter.Entry(root3)
        x3.place(x=200,y=400)

        L8=Label(root3,text=('enter time in 24 hour format')).place(x=48,y=430)
        x4=tkinter.Entry(root3)
        x4.place(x=200,y=430)

        B1=Button(root3,text='Submit',command=apo_details)
        B1.place(x=120,y=480)
        root3.resizable(False,False)
        root3.mainloop()



#  For AADHAAR no input
def apoint():
    global x1
    root2=Tk()
    label=Label(root2,text="APPOINTMENT",font='arial 25 bold')
    label.pack()
    frame=Frame(root2,height=200,width=200)
    frame.pack()
    l1=Label(root2,text="AADHAAR NO.")
    l1.place(x=10,y=130)
    x1=tkinter.Entry(root2)
    x1.place(x=100,y=130)
    b1=Button(root2,text='Submit',command=get_apoint)
    b1.place(x=100,y=160)
    root2.resizable(False,False)
    root2.mainloop()

#  List of doctors
def lst_doc():
    root4=Tk()

    l=["Dr. sharma","Dr. Verma","Dr. Kumar","Dr. Khan","Dr. Kohli","Dr. singh","Dr.
Sidharth","Dr. tendulkar","Dr. Virat","Dr. Leo",'Dr. Irfan','Dr. John',
       'Dr. Sanjay','Dr. Shahid']
```

```
    m=["Orthopaedic surgeon","Orthopaedic
surgeon","Nephrologist","Nephrologist","Gynaecologist","Gynaecologist","Physician","Physician
","Neurologist",
       "Neurologist",'X-ray','X-ray','X-ray','X-ray']
    n=[10,11,12,13,14,15,16,17,18,19,20,21,22,23]

    frame=Frame(root4,height=500,width=500)
    frame.pack()


    l1=Label(root4,text='NAME OF DOCTORS')
    l1.place(x=20,y=10)
    count=20
    for i in l:
       count=count+20
       l=Label(root4,text=i)
       l.place(x=20,y=count)

    l2=Label(root4,text='DEPARTMENT')
    l2.place(x=140,y=10)
    count1=20
    for i in m:
       count1=count1+20
       l3=Label(root4,text=i)
       l3.place(x=140,y=count1)

    l4=Label(root4,text='ROOM NO')
    l4.place(x=260,y=10)
    count2=20
    for i in n:
       count2=count2+20
       l5=Label(root4,text=i)
       l5.place(x=260,y=count2)
    root.resizable(False,False)
    root4.mainloop()

def ser_avail():

    root5=Tk()
    frame=Frame(root5,height=500,width=500)
    frame.pack()
    l1=Label(root5,text='SERVICES AVAILABLE')
    l1.place(x=20,y=10)
```

```
    f=["ULTRASOUND","X-RAY","CT Scan","MRI","BLOOD
COLLECTION","DIALYSIS","ECG","CHEMIST","LAB"]
    count1=20
    for i in f:
       count1=count1+20
       l3=Label(root5,text=i)
       l3.place(x=20,y=count1)
    l2=Label(root5,text='ROOM NO.')
    l2.place(x=140,y=10)
    g=[1,2,3,4,5,6,7,8,9]
    count2=20
    for i in g:
       count2=count2+20
       l4=Label(root5,text=i)
       l4.place(x=140,y=count2)
    l5=Label(root5,text='To avail any of these please contact on our no.:- 7042****55')
    l5.place(x=20,y=240)
    root5.resizable(False,False)
    root5.mainloop()

def modify():
    global x3,x4,choice,new,x5,root6
    p1=x3.get()
    cur.execute('select * from appointment where idno=(%s)',(p1,))

    dat=cur.fetchall()
    a=[]
    for i in dat:
        a.append(i)
    if len(a)==0:
        tkinter.messagebox.showwarning("ERROR", "NO DATA FOUND!!")
    else:
      root6=Tk()
      frame=Frame(root6,height=500,width=500)
      frame.pack()
      l1=Label(root6,text='DATA MODIFICATION',font="arial 15 bold")
      l1.place(x=75,y=10)
      l2=Label(root6,text='WHAT YOU WANT TO CHANGE')
      l2.place(x=50,y=200)
      l3=Label(root6,text='1.NAME')
      l3.place(x=50,y=220)
      l4=Label(root6,text='2.AGE')
      l4.place(x=50,y=240)
```

```
    l5=Label(root6,text='3.GENDER')
    l5.place(x=50,y=260)
    l6=Label(root6,text='4.PHONE')
    l6.place(x=50,y=280)
    l7=Label(root6,text='5.BLOOD GROUP')
    l7.place(x=50,y=300)
    x2=Label(root6,text='Enter')
    x2.place(x=50,y=330)
    x4=tkinter.Entry(root6)
    choice=x4.get()
    x4.place(x=100,y=330)
    for i in dat:
          name=Label(root6,text='NAME:-')
          name.place(x=50,y=80)
          name1=Label(root6,text=i[1])
          name1.place(x=150,y=80)
          age=Label(root6,text='AGE:-')
          age.place(x=50,y=100)
          age1=Label(root6,text=i[2])
          age1.place(x=150,y=100)
          gen=Label(root6,text='GENDER:-')
          gen.place(x=50,y=120)
          gen1=Label(root6,text=i[3])
          gen1.place(x=150,y=120)
          pho=Label(root6,text='PHONE:-')
          pho.place(x=50,y=140)
          pho1=Label(root6,text=i[4])
          pho1.place(x=150,y=140)
          bg=Label(root6,text='BLOOD GROUP:-')
          bg.place(x=50,y=160)
          bg1=Label(root6,text=i[5])
          bg1.place(x=150,y=160)
    b=Button(root6,text='Submit',command=do_modify)
    b.place(x=50,y=400)
    L1=Label(root6,text='OLD DETAILS')
    L1.place(x=50,y=50)
    L2=Label(root6,text='ENTER NEW DETAIL')
    L2.place(x=50,y=360)
    x5=tkinter.Entry(root6)
    new=x5.get()
    x5.place(x=160,y=360)

    root6.resizable(False,False)
```

```
      root6.mainloop()

def do_modify():
    global ad,x3,x4,x5
    ad=x3.get()
    choice=x4.get()
    new=x5.get()
    if choice=='1':
        cur.execute('update appointment set name={} where idno={}'.format(new,ad))
    elif choice=='2':
        cur.execute('update appointment set age={} where idno={}'.format(new,ad))
    elif choice=='3':
        cur.execute('update appointment set gender={} where idno={}'.format(new,ad))
    elif choice=='4':
        cur.execute('update appointment set phone={} where idno={}'.format(new,ad))
    elif choice=='5':
        cur.execute('update appointment set bg={} where idno={}'.format(new,ad))
    else:
        pass
    root6.destroy()
    tkinter.messagebox.showinfo("DONE", "YOUR DATA HAS BEEN MODIFIED")

choice=None
new=None
ad=None
def mod_sub():
    global x3,ad
    root7=Tk()
    label=Label(root7,text="MODIFICATION",font='arial 25 bold')
    label.pack()
    frame=Frame(root7,height=200,width=200)
    frame.pack()
    l1=Label(root7,text="AADHAAR NO.")
    l1.place(x=10,y=130)
    x3=tkinter.Entry(root7)
    x3.place(x=100,y=130)
    ad=x3.get()
    b1=Button(root7,text='Submit',command=modify)
    b1.place(x=100,y=160)
    root7.resizable(False,False)
    root7.mainloop()

def search_data():
```

```
    global x3,ad
    root7=Tk()
    label=Label(root7,text="SEARCH DATA",font='arial 25 bold')
    label.pack()
    frame=Frame(root7,height=200,width=200)
    frame.pack()
    l1=Label(root7,text="AADHAAR NO.")
    l1.place(x=10,y=130)
    x3=tkinter.Entry(root7)
    x3.place(x=100,y=130)
    ad=x3.get()
    b1=Button(root7,text='Submit',command=view_data)
    b1.place(x=100,y=160)
    root7.resizable(False,False)
    root7.mainloop()

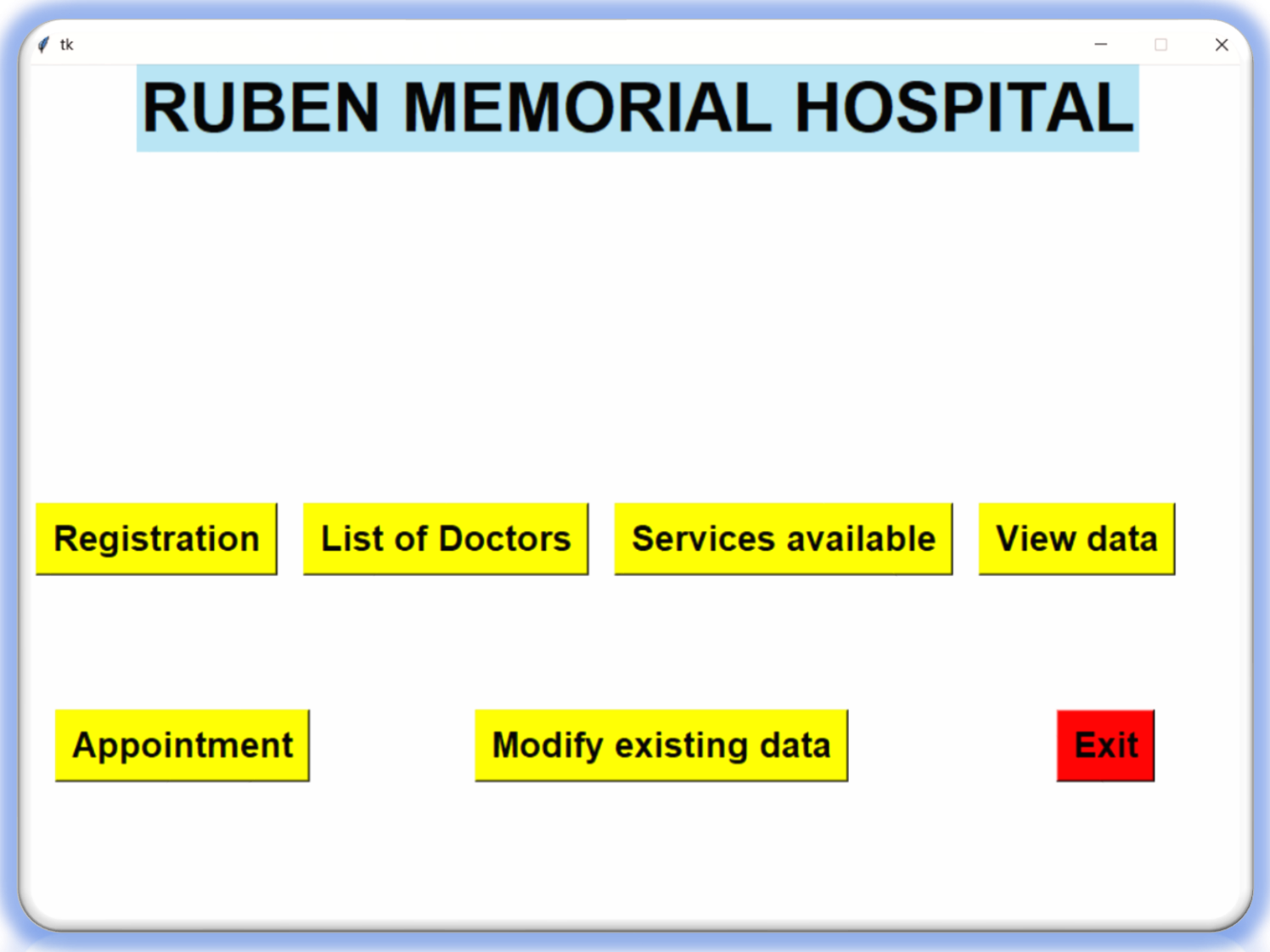
def view_data():
    global p1
    p1=x3.get()
    cur.execute('select * from appointment where idno=(%s)',(p1,))

    dat=cur.fetchall()
    print(dat)
    a=[]
    for i in dat:
        a.append(i)
    if len(a)==0:
        tkinter.messagebox.showwarning("ERROR", "NO DATA FOUND!!")
    else:
        det=a
        tkinter.messagebox.showinfo("APPOINTMENT DETAILS",det)

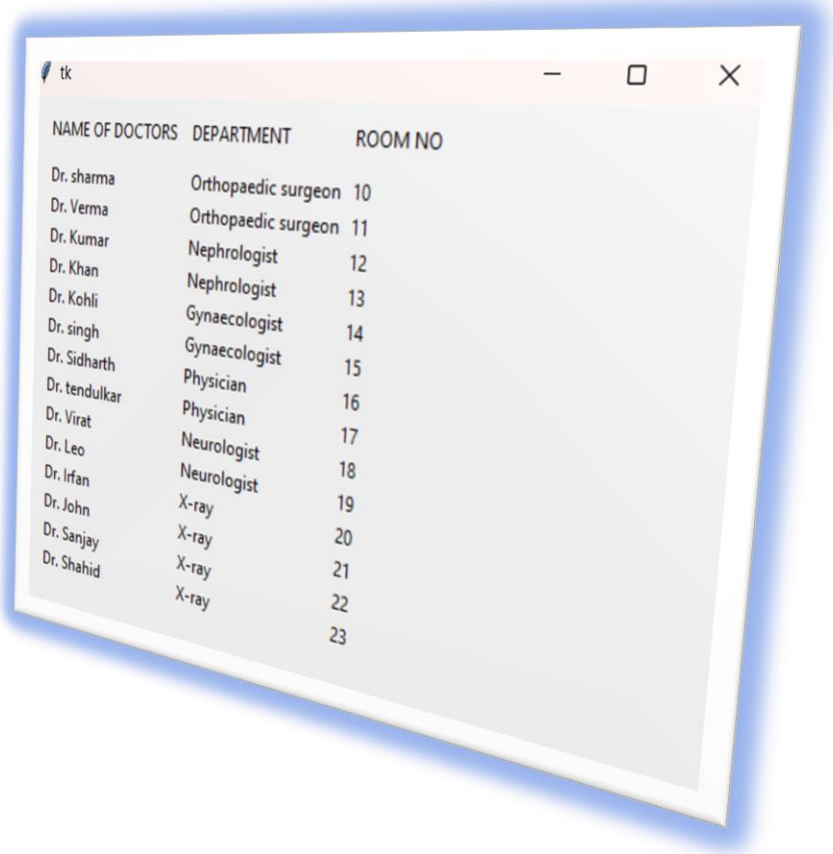

root=Tk()
label=Label(root,text="RUBEN MEMORIAL HOSPITAL",font="arial 40 bold",bg='light blue')
b1=Button(text="Registration",font="arial 20 bold",bg='yellow',command=register)
b2=Button(text="Appointment",font="arial 20 bold",bg='yellow',command=apoint)
b3=Button(text="List of Doctors",font="arial 20 bold",bg='yellow',command=lst_doc)
b4=Button(text="Services available",font='arial 20 bold',bg='yellow',command=ser_avail)
b7=Button(text="View data",font='arial 20 bold',bg='yellow',command=search_data)
b5=Button(text="Modify existing data",font='arial 20 bold',bg='yellow',command=mod_sub)
b6=Button(text="Exit",font='arial 20 bold',command=root.destroy,bg='red')
label.pack()
```

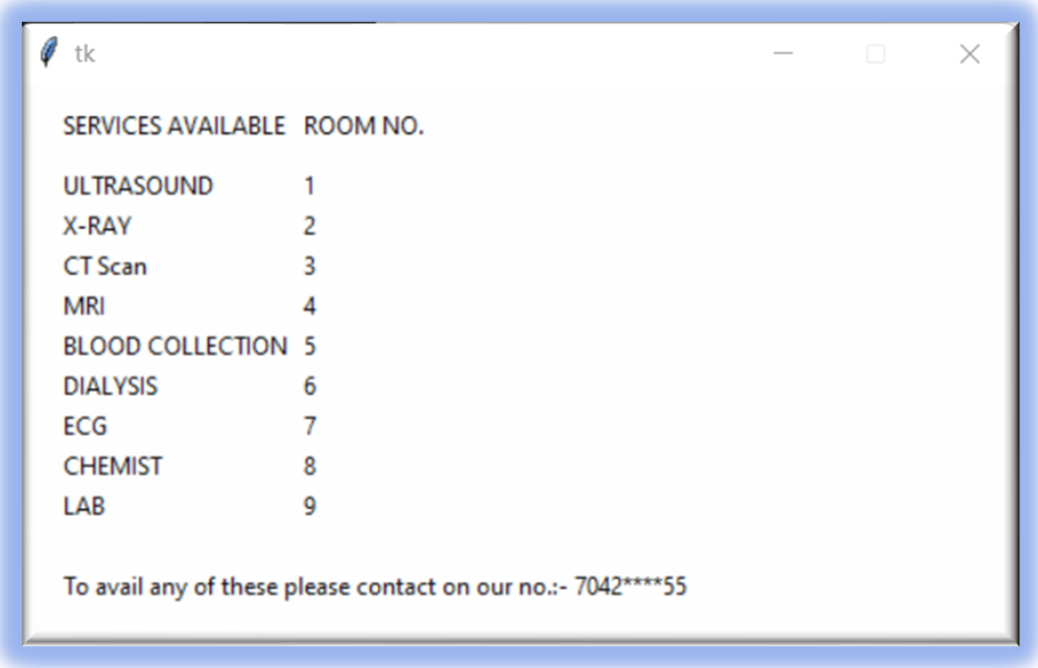
```
b1.pack(side=LEFT,padx=10)
b3.pack(side=LEFT,padx=10)
b4.pack(side=LEFT,padx=10)
b2.place(x=25,y=500)
b7.pack(side=LEFT,padx=10)
b5.place(x=350,y=500)
b6.place(x=800,y=500)
frame=Frame(root,height=600,width=50)
frame.pack()
root.resizable(False,False)
root.mainloop()
```

OUTPUT


tk
RUBEN MEMORIAL HOSPITAL
Registration
List of Doctors
Services available
View data
Appointment
Modify existing data
Exit


tk
REGISTER YOURSELF
AADHAR CARD
NAME
AGE
GENDER M\F
PHONE
BLOOD GROUP
SUBMIT


tk
NAME OF DOCTORS DEPARTMENT ROOM NO
Dr. sharma Orthopaedic surgeon 10
Dr. Verma Orthopaedic surgeon 11
Dr. Kumar Nephrologist 12
Dr. Khan Nephrologist 13
Dr. Kohli Gynaecologist 14
Dr. singh Gynaecologist 15
Dr. Sidharth Physician 16
Dr. tendulkar Physician 17
Dr. Virat Neurologist 18
Dr. Leo Neurologist 19
Dr. Irfan X-ray 20
Dr. John X-ray 21
Dr. Sanjay X-ray 22
Dr. Shahid X-ray 23


tk
SERVICES AVAILABLE ROOM NO.
ULTRASOUND 1
X-RAY 2
CT Scan 3
MRI 4
BLOOD COLLECTION 5
DIALYSIS 6
ECG 7
CHEMIST 8
LAB 9
To avail any of these please contact on our no.:- 7042****55


tk
SEARCH DATA
AADHAAR NO.
Submit


tk
APPOINTMENT
AADHAAR NO.
Submit


MODIFICATION
AADHAAR NO.
Submit

CONCLUSION

This project has helped us develop our skills in python in a fun, interactive and simple way. It has showed us the true power of a high-level programming language like python, along with the MySQL database system to provide a tool which can create an already existing system much more efficient. The tools and functions used in this project go above and beyond what was taught in the classroom and has helped us the limitless possibilities and capabilities of the python programming language. This project has been very fun to work upon, and we look forward to creating similar projects in the future.

SOURCES/BIBLIOGRAPHY

We have used multiple external documentations and books to create this project, some of them being:

- **NCERT** Computer Science Textbook for Class XI/XII.
- **APC Books**, Textbook of Computer Science with Python, Grade XII.
- Python tkinter module documentation.
  - https://docs.python.org/3/library/tkinter.html
- StackOverflow for common questions and queries.
  - https://stackoverflow.com/
- Geek4Geeks for in-depth documentation with examples.
  - http://www.geeksforgeeks.org/
- LeetCode to practice the functions we've learned in different types of problems.
  - https://leetcode.com/problemset/all/