HOSPITAL MANAGEMENT SYSTEM

Computer Science Project Work (Class XII, Year 2021)

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CLASS AND SECTION: - XII-'A'
ADMISSION NUMBER: - 10537
NAME OF THE SCHOOL: - AMITY INTERNATIONAL SCHOOL, SAKET

Certificate

This is to certify that Om Singh of Class XII-'A', Admission number 10537, of Amity International School, Saket has prepared this project titled Hospital Management System, under my guidance.

This project is worthy of acceptance as final project for CBSE Senior Secondary Examinations, Class XII, Computer Science in the academic year 2020-2021.

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(Student's Signature) (Teacher's Signature)

(Examiner's Signature)

Acknowledgement

This project work entitled "***Hospital Management System***", which caters to the modern basic needs of all the hospitals, is the result of support and motivation from various people. In this section of the project work, I would first of all like to thank ***Sunita Ma'am*** for her constant guidance and help, while I wrote the code for this project. She always encouraged me to go beyond the limits put up by the CBSE Syllabus for Class 12, and also suggested me to include ***Tkinter*** module in this project. Without those contributions, this project definitely won't have assumed the form in which the reader is reading it at the moment.

Also, I would like to thank everyone related directly or indirectly with this project, and ***Amity International School, Saket*** to provide me with the optimum platform to test various parts of this code individually.

I hope the readers of this project shall enjoy the coding and the interface, developed on Tkinter, and the success of this project lies in the extent to which the target audience benefits and enjoys executing this code.

I also hope that readers may point out to me some inevitable errors which might have crept in this project, on the below mentioned contact details.

OM SINGH
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FUNCTIONALITIES OF THE PROGRAM: -

This program aims to provide all the features a modern-day hospital requires, for example, to add a new patient, to add a new doctor, schedule the appointment of a patient with a new doctor, sorting out all the doctors available in the hospital department-wise, and even the patient can use this to register himself/herself with the doctor of his/her choice, and he/she can even leave a feedback of the doctor, so that services of the hospital can be improved even further. Some of its features are as elaborated below:

1. The program offers a separate dedicated window for a doctor as well as for a patient. On the opening page, you can choose whether you are a doctor/patient.

IF YOU ARE A PATIENT…

1. If you choose to be a patient, you either need to login using your Patient ID and Password, or if you are new, you can register and schedule an appointment.
2. If you enter the correct login credentials, you can see information related to your past visits in the hospital/the upcoming appointments. You can see what you were prescribed by the doctor during your last visits.
3. In case you have Forgot your Patient ID, you can easily reset/recover it, by selecting Forgot Patient ID.

IF YOU ARE A DOCTOR…

1. You too have two options. If you are already registered, you can go to the Login Frame, and if you are new, you can go to New Doctor Registration.
2. If you login, you can see a panel. As and when the patient enters, you can link him through his Patient ID, and update his details, and suggest him the required medications.
3. If you want to register, you can use the relevant portal.
4. Also, in case you have forgot your Username/Password, you can reset the same.

I have made all attempts to find and correct all the flaws in the program, for example entering a wrong date/a wrong name/an invalid mobile number, etc. and a relevant message box shall be displayed at any encounter of error. Your suggestions for improvement are welcome.

A GUIDE ON HOW TO RUN Code.py ON YOUR SYSTEM (PREREQUISITES): -

This program employs Tkinter on a large scale, to develop relevant windows/frames, where buttons/text boxes/message boxes have been placed. Also, to store a large amount of data involving Patient's List, Doctor's List, etc. CSV (Comma-Separated Values) files have been used. The prerequisites for the execution of the program are as under:

1. Patient List.csv
2. New Applications.csv
3. Doctor's List.csv
4. Code.py
5. A properly working Spyder app (preferably updated to the latest version)
6. An appropriate reader for CSV files, preferably MS Excel, in case you want to view the contents of the CSV file

So, to run the file Code.py properly, all these three CSV files must be present in the same folder in which Code.py is present. Else, file not found errors are expected.
For those who want step-by-step procedure for the same:-

1. First create a file folder at any location you want in your PC, and assign it any name as per your wish.
2. The contents of Code.py and the three CSV files have been mentioned in the coming pages of this project work.
3. You need to create a Code.py using those contents (by copying it with relevant indentation on your Spyder App), and the three CSV files, in the single folder created in Step-1.
4. Then, after having completed the first 3 steps, open Code.py in Spyder and execute it.

USE THE PROGRAM AND RELISH ITS EFFECTIVENESS!!

CONTENTS OF THE PROGRAM Code.py (ACTUAL CODE): -

```
"""
   TOPIC FOR COMPUTER PRACTICALS: HOSPITAL MANAGEMENT SYSTEM
   STUDENT NAME: OM SINGH
   CLASS: 12-"A"
   SCHOOL: AMITY INTERNATIONAL SCHOOL,SAKET
"""
#<<<<<<<<Import statements which are to be used at some point in the program>>>>>>>>

from tkinter import *
import tkinter.messagebox
from tkinter import ttk
import csv
import uuid

#===============<><><><><><>Start of the Program<><><><><><>==============

def main():
   root=Tk()
   app=Window1(root)

#======================Creating Master Window======================

class Window1():
   def __init__(self,master):
      self.master=master
      self.master.title("Introduction")
      self.master.geometry('580x450+200+0')
      self.master.config(bg="white")
      self.frame=Frame(self.master)
      self.frame.pack()

      #Creating Required Frames
      self.Frame1=LabelFrame(self.frame,bd=0)
      self.Frame1.grid(row=0,column=0)
      self.Frame2=LabelFrame(self.frame,bd=0)
      self.Frame2.grid(row=1,column=0)
      self.Frame3=LabelFrame(self.frame,relief="ridge",bd=10)
      self.Frame3.grid(row=2,column=0)
      self.Frame4=LabelFrame(self.frame,bd=0)
      self.Frame4.grid(row=3,column=0)
```

```
        #Placing Required Widgets

        self.label=Label(self.Frame1,text='XYZ HOSPITAL, NEW DELHI',font=("Bell
MT",30,"bold","underline"),fg="AntiqueWhite4")
        self.label.grid(row=0,column=0,columnspan=2,pady=40)
        self.label=Label(self.Frame2,text='Hi!! Welcome to XYZ Hospital, New
Delhi.',font=("Cambria",15),fg="black")
        self.label.grid(row=2,column=0,columnspan=2)
        self.label=Label(self.Frame2,text='Before moving ahead, please select
which',font=("Cambria",15),fg="black")
        self.label.grid(row=3,column=0,columnspan=2)
        self.label=Label(self.Frame2,text='of the following applies to
you.',font=("Cambria",15),fg="black")
        self.label.grid(row=4,column=0,columnspan=2)
        self.label=Label(self.Frame2,text='')
        self.label.grid(row=5,column=0,columnspan=2)
        self.label=Label(self.Frame2,text="I am :-",font=("Cambria",15),fg="black")
        self.label.grid(row=7,column=0,columnspan=2,pady=5)

        #Creating Required Buttons

        self.btnDoc=Button(self.Frame3,text="A Doctor",width=20,font=("Bell
MT",15,"bold"),command=self.Doctor_Login)
        self.btnDoc.grid(row=8,column=0)
        self.btnDoc=Button(self.Frame3,text="A Patient",width=20,font=("Bell
MT",15,"bold"),command=self.Patient_Login)
        self.btnDoc.grid(row=9,column=0)
        self.btnAbout=Button(self.Frame4,text="About
Us",font=("Cambria",12,"bold","underline"),fg="blue",command=self.About_Us)
        self.btnAbout.grid(row=9,column=0,pady=20)
        self.label=Label(self.Frame4,text=8*"\t")
        self.label.grid(row=9,column=1,pady=20)
        self.btnContact=Button(self.Frame4,text="Contact
Us",font=("Cambria",12,"bold","underline"),fg="blue",command=self.Contact_Us)
        self.btnContact.grid(row=9,column=2,pady=20)

        #Running the mainloop

        self.master.mainloop()
```

```
#<<<<<<<<<<<<<<<<Functions for Buttons of Master Window>>>>>>>>>>>>>>>>>>

    def Doctor_Login(self):
        self.newwindow=Toplevel(self.master)
        self.app=Doc_Window(self.newwindow)

    def Patient_Login(self):
        self.newwindow=Toplevel(self.master)
        self.app=Patient_Window(self.newwindow)

    def About_Us(self):
        str_objectives="OUR OBJECTIVES:-\n\nWe at XYZ Hospital, New Delhi always try to provide our patients with the best medical infrastructure, and our 24X7 dedicated medical fraternity are always ready to serve you.\nFOR US OUR JOURNEY ITSELF IS OUR DESTINATION. BE A PART OF THIS MEDICAL REVOLUTION..\n\n"
        str_awards="AWARDS AND RECOGNITIONS:-\n\n(i) Best Multispeciality Hospital across India as per the survey by XXX.\n(ii) Best Cancer Care and Research Institute as per the survey by XXX.\n(iii) The first hospital in the country having the experience of more than X0,000 Open Heart Surgeries..\n\n"
        str_mission="FUTURE PLANS:-\n\nLET'S MAKE A HEALTHY, PROGRESSED AND HIGHLY ACHIEVING INDIA."
        tkinter.messagebox.askokcancel("About Us",str_objectives+str_awards+str_mission)

    def Contact_Us(self):
        str_address="ADDRESS:-\nXYZ Multispeciality Hospital,\n#17, Block II, Saket Road,\nSaket\nNew Delhi-122 002\n\n"
        str_mapview="LINK FOR NAVIGATION THROUGH GOOGLE MAPS:-\nmaps.google.com/sjhhVGY12/jhba\n\n"
        str_emailid="E-MAIL ADDRESSES:-\n(i) For queries regarding patient/doctor registration:\n  xyzregistration@gmail.com\n(ii) For obtaining past health records/medical scans of the patient:\n  xyzpatientsscan@gmail.com\n(iii) For feedbacks:\n xyzfeedbacks@gmail.com\n(iv) For medical fraternity except our doctors and patients(like nurses,etc.):\n  xyzgeneralinfo@gmail.com\n\n"
        str_contact="PHONE NUMBER DIRECTORY:-\n(i) Toll free number:-XXXXXXXXXX\n(ii) General Ward Administrator Contact Number:-XXXXXXXXXX\n(iii) For enquiries of a patient through his/her Patient ID:-XXXXXXXXXX\n\n"
        tkinter.messagebox.askokcancel("Contact Us",str_address+str_mapview+str_emailid+str_contact)
```

```
#====================Creating Master Doctor Window==================

class Doc_Window:
    def __init__(self,master):
        self.master=master
        self.master.title("Doctor's Portal, XYZ Hospital, New Delhi")
        self.master.geometry('650x450+175+0')
        self.master.config(bg="white")
        self.frame=Frame(self.master)
        self.frame.grid(row=0,column=0)



        #Creating variabes

        self.Username=StringVar()
        self.Password=StringVar()



        #Creating the required frames

        self.windowLayout=LabelFrame(self.frame,width=650,height=150,bd=0)
        self.windowLayout.grid(row=1,column=0,padx=20)

self.Doc_Login_Frame=LabelFrame(self.frame,width=650,height=150,relief="groove",bd=
10)
        self.Doc_Login_Frame.grid(row=2,column=0,padx=30)
        self.Submit_Reset=LabelFrame(self.frame,width=650,height=150,bd=0)
        self.Submit_Reset.grid(row=3,column=0,padx=30)
        self.Instructions=LabelFrame(self.frame,width=650,height=150,bd=0)
        self.Instructions.grid(row=4,column=0,padx=30)
        self.buttons=LabelFrame(self.frame,width=650,height=150,bd=0)
        self.buttons.grid(row=5,column=0,padx=10)
```

```
        #Placing the required widgets

        self.label=Label(self.windowLayout,text="Welcome to Doctor's Portal of XYZ
Hospital, New Delhi.",font=("Cambria",18,"bold","underline"),fg="AntiqueWhite4")
        self.label.grid(row=1,column=0)
        self.label=Label(self.windowLayout,text="If you are already registered with
us,\nkindly enter your Username and Password in the Login
Frame.",font=("Cambria",12),fg="black")
        self.label.grid(row=2,column=0,pady=10)
        self.lbl=Label(self.Doc_Login_Frame,text=2*"\t")
        self.lbl.grid(row=4,column=0)
        self.lbl=Label(self.Doc_Login_Frame,text="LOGIN
FRAME",font=("Cambria",12,"underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=4,column=1)
        self.lblUsername=Label(self.Doc_Login_Frame,text="Enter
Username",font=("Cambria",13,"bold"),fg="blue")
        self.lblUsername.grid(row=5,column=0)
        self.lbl=Label(self.Doc_Login_Frame,text="\t")
        self.lbl.grid(row=5,column=1)

self.txtUsername=Entry(self.Doc_Login_Frame,font=("Cambria",12),bg="gainsboro",textva
riable=self.Username)
        self.txtUsername.grid(row=5,column=2,pady=10)
        self.lbl=Label(self.Doc_Login_Frame,text=7*" ")
        self.lbl.grid(row=6,column=3)
        self.lblPassword=Label(self.Doc_Login_Frame,text="Enter
Password",width=20,font=("Cambria",13,"bold"),fg="blue")
        self.lblPassword.grid(row=6,column=0)
        self.lbl=Label(self.Doc_Login_Frame,text="\t")
        self.lbl.grid(row=6,column=1)

self.txtPassword=Entry(self.Doc_Login_Frame,font=("Cambria",12),bg="gainsboro",show=
"*",width=20,textvariable=self.Password)
        self.txtPassword.grid(row=6,column=2,pady=10)
        self.lbl=Label(self.Doc_Login_Frame,text=7*" ")
        self.lbl.grid(row=6,column=3)
```

```
        #Creating required Buttons

self.btnSubmit=Button(self.Submit_Reset,text="Submit",font=("Cambria",12,"bold"),fg="bl
ue",command=self.submit)
        self.btnSubmit.grid(row=7,column=0)

self.btnReset=Button(self.Submit_Reset,text="Reset",font=("Cambria",12,"bold"),fg="blue"
,command=self.reset)
        self.btnReset.grid(row=7,column=1)
        self.lbl=Label(self.Instructions,text="In case you are registered with us, and want to
retrieve\nyour Username or Password,click on FORGOT Button.\nFor new Applications,
click on NEW APPLICATIONS button.",font=("Cambria",12))
        self.lbl.grid(row=8,column=0,pady=15)
        self.btnForgot=Button(self.buttons,text="Forgot
Username/Password?",font=("Cambria",10,"bold","underline"),fg="blue",command=self.for
got)
        self.btnForgot.grid(row=9,column=0,pady=20)
        self.lbl=Label(self.buttons,text=65*" ")
        self.lbl.grid(row=9,column=1)
        self.btnNewApp=Button(self.buttons,text="New Doctor's
Application",font=("Cambria",10,"bold","underline"),fg="blue",command=self.New)
        self.btnNewApp.grid(row=9,column=2)
        self.btnAbout=Button(self.buttons,text="About
us",font=("Cambria",10,"bold","underline"),fg="blue",command=self.About_Us)
        self.btnAbout.grid(row=10,column=0)
        self.lbl=Label(self.buttons,text=75*" ")
        self.lbl.grid(row=10,column=1)
        self.btnContact=Button(self.buttons,text="Contact
us",font=("Cambria",10,"bold","underline"),fg="blue",command=self.Contact_Us)
        self.btnContact.grid(row=10,column=2)
```

```
#<<<<<<<<<<<<<Functions for the Buttons of Master Doctor Window>>>>>>>>>>>>>

    def Credentials(self):
        d={}
        with open("Doctor's List.csv","r")as readFile:
            reader=csv.reader(readFile)
            lines=list(reader)
            count=0
            for row in lines:
                count+=1
                if(count==1):
                    continue
                x=0
                for column in row:
                    x+=1
                    if(x==2):
                        d[column]=0
                        x=0
                        for c in row:
                            x+=1
                            if(x==3):
                                d[column]=c
                                break
                        break
        return(d)
```

```
    def submit(self):
        u=(self.Username.get())
        p=(self.Password.get())
        d=self.Credentials()
        check_for_prescence=0
        for keys in d:
            if(keys==u):
                check_for_prescence=1
                if(d[keys]==p):
                    self.newwindow=Toplevel(self.master)
                    self.app=Doc_Page(self.newwindow)
                else:
                    tkinter.messagebox.askokcancel("Invalid Password","Sorry! But you Password is incorrect.. Please enter a valid Password")
                    self.Password.set("")
                    self.txtPassword.focus()
        if(check_for_prescence==0):
            tkinter.messagebox.askokcancel("Invalid Username","Sorry! But your Username is incorrect.. Please enter a valid Username")
            self.Username.set("")
            self.Password.set("")
            self.txtUsername.focus()

    def reset(self):
        self.Username.set("")
        self.Password.set("")
        self.txtUsername.focus()

    def forgot(self):
        self.newwindow=Toplevel(self.master)
        self.app=Forgot(self.newwindow)

    def About_Us(self):
        str_objectives="OUR OBJECTIVES:-\n\nWe at XYZ Hospital, New Delhi always try to provide our patients with the best medical infrastructure, and our 24X7 dedicated medical fraternity are always ready to serve you.\nFOR US OUR JOURNEY ITSELF IS OUR DESTINATION. BE A PART OF THIS MEDICAL REVOLUTION..\n\n"
        str_awards="AWARDS AND RECOGNITIONS:-\n\n(i) Best Multispeciality Hospital across India as per the survey by XXX.\n(ii) Best Cancer Care and Research Institute as per the survey by XXX.\n(iii) The first hospital in the country having the experience of more than X0,000 Open Heart Surgeries..\n\n"
        str_mission="FUTURE PLANS:-\n\nLET'S MAKE A HEALTHY, PROGRESSED AND HIGHLY ACHIEVING INDIA."
        tkinter.messagebox.askokcancel("About Us",str_objectives+str_awards+str_mission)
```

```
    def Contact_Us(self):
        str_address="ADDRESS:-\nXYZ Multispeciality Hospital,\n#17, Block II, Saket
Road,\nSaket\nNew Delhi-122 002\n\n"
        str_mapview="LINK FOR NAVIGATION THROUGH GOOGLE MAPS:-
\nmaps.google.com/sjhhVGY12/jhba\n\n"
        str_emailid="E-MAIL ADDRESSES:-\n(i) For queries regarding patient/doctor
registration:\n  xyzregistration@gmail.com\n(ii) For obtaining past health records/medical
scans of the patient:\n  xyzpatientsscan@gmail.com\n(iii) For feedbacks:\n
xyzfeedbacks@gmail.com\n(iv) For medical fraternity except our doctors and patients(like
nurses,etc.):\n  xyzgeneralinfo@gmail.com\n\n"
        str_contact="PHONE NUMBER DIRECTORY:-\n(i) Toll free number:-
XXXXXXXXXX\n(ii) General Ward Administrator Contact Number:-
XXXXXXXXXX\n(iii) For enquiries of a patient through his/her Patient ID:-
XXXXXXXXXX\n\n"
        tkinter.messagebox.askokcancel("Contact
Us",str_address+str_mapview+str_emailid+str_contact)

    def New(self):
        self.newwindow=Toplevel(self.master)
        self.app=New_Application(self.newwindow)

#================Creating a window for New Doctor's Application============

class New_Application:
    def __init__(self,master):
        self.master=master
        self.master.title("New Doctor's Application")
        self.master.geometry('870x520+70+0')
        self.master.config(bg="white")
        self.frame=Frame(self.master)
        self.frame.grid(row=0,column=0)

        #Creating the required variables
        self.Name=StringVar()
        self.Qualifications=StringVar()
        self.Address=StringVar()
        self.Email=StringVar()
        self.Contact=StringVar()
        self.DOB=StringVar()
        self.Res=StringVar()
        self.Language=StringVar()
        self.chkValue=BooleanVar()
        self.chkValue.set(False)
```

```
        #Creating the required frames

        self.label_frame=LabelFrame(self.frame,bd=0)
        self.label_frame.grid(row=0,column=0)
        self.combo_frame=LabelFrame(self.frame,relief="groove",bd=10)
        self.combo_frame.grid(row=1,column=0)
        self.declaration_frame=LabelFrame(self.frame,relief="groove",bd=10)
        self.declaration_frame.grid(row=2,column=0)
        self.submit_frame=LabelFrame(self.frame,bd=0)
        self.submit_frame.grid(row=3,column=0)
        self.contact_frame=LabelFrame(self.frame,bd=0)
        self.contact_frame.grid(row=4,column=0)


        #Placing the required widgets

        self.lbl=Label(self.label_frame,text="Hi and Welcome to XYZ Hospital, New
Delhi!!\nWe are delighted that you have show interest in applying as a doctor in one of the
best multispeciality hospitals across India..\nTo know more about our awards and
recognitions, click on About Us.",font=("Cambria",12),fg="AntiqueWhite4")
        self.lbl.grid(row=0,column=0)
        self.lbl=Label(self.label_frame,text="To be a part of us and contribute towards
HEALTHY INDIA, kindly fill the following details:\n(Note that all the columns are to be
filled. For multiple entries, use commas)",font=("Cambria",12))
        self.lbl.grid(row=1,column=0,pady=5)
        self.lbl=Label(self.combo_frame,text="Name*\tDr.",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=2,column=0)

self.txtName=Entry(self.combo_frame,font=("Cambria",12),width=17,bg="gainsboro",textv
ar=self.Name)
        self.txtName.grid(row=2,column=1)
        self.lbl=Label(self.combo_frame,text="Department*\t
",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=3,column=0)
        self.department=ttk.Combobox(self.combo_frame,values=["---Select---","Bariatric
Surgery","Cardiac Surgery","Cardiology","Critical Care","Dental
Surgery","Dermatology","Emergency Medicine","Endocrinology","ENT","Gastroentrology
and GI Surgery","General and Laparoscopic Surgery","Gynecology and
Obsterics","Haematology","Internal Medicine","Kidney Transpant","Lab
Sciences","Nephrology","Neurology","Neurosurgery","Nuclear Medicine","Nutrition and
Dietetics","Oncology","Opthalmology","Orthopaedics and
Joints","Paediatrics","Physiotherapy","Psychiatry and Psychology","Plastic and
Reconstructive Surgery","Pulmonology","Radiology","Spine Services","Urology"])
        self.department.current(0)
        self.department.grid(row=3,column=1)
```

```
        self.lbl=Label(self.combo_frame,text="Qualifications (comma-separated)*\t
",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=4,column=0)

self.txtQualification=Entry(self.combo_frame,font=("Cambria",12),bg="gainsboro",textvar=
self.Qualifications)
        self.txtQualification.grid(row=4,column=1)
        self.lbl=Label(self.combo_frame,text="Residential Address*\t
",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=5,column=0)

self.txtAddress=Entry(self.combo_frame,font=("Cambria",12),width=17,bg="gainsboro",tex
tvar=self.Address)
        self.txtAddress.grid(row=5,column=1)
        self.lbl=Label(self.combo_frame,text="E-Mail Address*\t
",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=6,column=0)

self.txtEmail=Entry(self.combo_frame,font=("Cambria",12),width=17,bg="gainsboro",textv
ar=self.Email)
        self.txtEmail.grid(row=6,column=1)
        self.lbl=Label(self.combo_frame,text="Contact
Number*\t+91",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=7,column=0)

self.txtContact=Entry(self.combo_frame,font=("Cambria",12),width=17,bg="gainsboro",text
var=self.Contact)
        self.txtContact.grid(row=7,column=1)
        self.lbl=Label(self.combo_frame,text="Work Experience(in years)*\t
",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=8,column=0)
        self.experience=ttk.Combobox(self.combo_frame,values=["---Select--
"]+list(range(60)))
        self.experience.current(0)
        self.experience.grid(row=8,column=1)
        self.lbl=Label(self.combo_frame,text="Date of Birth (in DDMMYYYY)*\t
",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=9,column=0)

self.txtDOB=Entry(self.combo_frame,font=("Cambria",12),width=17,bg="gainsboro",textva
r=self.DOB)
        self.txtDOB.grid(row=9,column=1)
        self.lbl=Label(self.combo_frame,text="Research and Publications*\t
",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=10,column=0)
```

```
self.txtResearch=Entry(self.combo_frame,font=("Cambria",12),width=17,bg="gainsboro",te
xtvar=self.Res)
        self.txtResearch.grid(row=10,column=1)
        self.lbl=Label(self.combo_frame,text="Languages Spoken*\t
",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=11,column=0)

self.txtLanguage=Entry(self.combo_frame,font=("Cambria",12),width=17,bg="gainsboro",t
extvar=self.Language)
        self.txtLanguage.grid(row=11,column=1)
        self.chk=Checkbutton(self.declaration_frame,text="By clicking the submit button, I
accept that the entered details are to the best of my knowledge\nand I shall be solely
responsible for any errors in this appliaction.",var=self.chkValue)
        self.chk.grid(row=12,column=0)

        #Creating the required Buttons

self.btnSubmit=Button(self.submit_frame,text="Submit",font=("Cambria",12,"bold"),fg="bl
ue",command=self.Submit)
        self.btnSubmit.grid(row=13,column=0)

self.btnReset=Button(self.submit_frame,text="Reset",font=("Cambria",12,"bold"),fg="blue"
,command=self.Reset)
        self.btnReset.grid(row=13,column=2)
        self.btnAbout=Button(self.contact_frame,text="About
Us",font=("Cambria",12,"bold","underline"),fg="blue",command=self.About_Us)
        self.btnAbout.grid(row=14,column=0)
        self.lbl=Label(self.contact_frame,text=9*"\t",font=("Cambria",12))
        self.lbl.grid(row=14,column=1)
        self.btnContact=Button(self.contact_frame,text="Contact
Us",font=("Cambria",12,"bold","underline"),fg="blue",command=self.Contact_Us)
        self.btnContact.grid(row=14,column=2)
```

```
#<<<<<<<<<<<<<<<<<<Functions for Buttons of New Doctor's Application>>>>>>>>>>

    def Reset(self):
        self.Name.set("")
        self.Qualifications.set("")
        self.Address.set("")
        self.Email.set("")
        self.Contact.set("")
        self.DOB.set("")
        self.Res.set("")
        self.Language.set("")
        self.chkValue.set(False)
        self.department.current(0)
        self.experience.current(0)
        self.txtName.focus()

    def Submit(self):
        if not((self.chkValue.get())):
            tkinter.messagebox.askokcancel("Error-Check Box not ticked","Please agree to the
terms and conditions before proceeding.\nTick the check box at the end of the form, else this
form won't be submitted.")
        else:
            if(len(self.Name.get())==0):
                tkinter.messagebox.askokcancel("Error in Name entry","Please enter a valid name
in the space provided. You haven't entered anything in the space provided for entering the
Name.")
            else:
                if(len(self.Address.get())==0):
                    tkinter.messagebox.askokcancel("Error in Address entry","Please enter a valid
address in the space provided. You haven't entered anything in the space provided for
entering the Address.")
                else:
                    if(len(self.Email.get())==0):
                        tkinter.messagebox.askokcancel("Error in Email entry","Please enter a valid
E-Mail in the space provided. You haven't entered anything in the space provided for
entering the E-Mail.")
                    else:
                        if(len(self.Contact.get())!=10):
                            tkinter.messagebox.askokcancel("Error in Contact Number entry","Please
enter a valid contact number of 10 digits in the space provided.")
                        else:
                            if(len(self.DOB.get())<8 or len(self.DOB.get())<7):
                                tkinter.messagebox.askokcancel("Error in Date of Birth entry","Please
enter a valid date of birth in the space provided.")
                            else:
                                if(len(self.Res.get())==0):
```

```
                    tkinter.messagebox.askokcancel("Error in Research and Publications entry","Please enter something in the text box meant for Research and Publications.\nIn case you don't have any Publications, mwntion \"NONE\"")
                else:
                    if(len(self.Language.get())==0):
                        tkinter.messagebox.askokcancel("Error in Language Entry","Please enter some Language in the space meant for Languages.\nIn case of multiple entries, separate them with commas.")
                    else:
                        if(str(self.department.get())=="---Select---"):
                            tkinter.messagebox.askokcancel("Error in Deparatment Entry","Please select a valid department.\nIn case you can't find some department here, immediately inform our Hospital Mangemnt of the same, procedure of which is given in the Contact Us section")
                        else:
                            if(str(self.experience.get())=="---Select---"):
                                tkinter.messagebox.askokcancel("Error in Experience Entry","Please select a valid number of years for work experience.")
                            else:
                                if(len(self.Qualifications.get())==0):
                                    tkinter.messagebox.askokcancel("Error in Qualifications Entry","You haven't made any entry in the Qualifications section.\nIn case you don't have any qualifications, enter \"NONE\".")
                                else:
                                    with open("New Applications.csv","r")as readFile:
                                        reader=csv.reader(readFile)
                                        lines=list(reader)
                                    id=uuid.uuid4()
```

```
l=[[id,self.Name.get(),str(self.department.get()),self.Qualifications.get(),self.Address.get(),self.Email.get(),self.Contact.get(),str(self.experience.get()),self.DOB.get(),self.Res.get(),self.Language.get()]]
                                    list1=lines+l
                                    with open("New Applications.csv","w",newline="")as csvfile:
                                        csvwriter=csv.writer(csvfile)
                                        csvwriter.writerows(list1)
                                    tkinter.messagebox.askokcancel("Application Success","Dear Dr. "+self.Name.get()+",\n\tWe have received your application bearing the Application Id:"+str(id)+"\n\n\tWe have also sent you an SMS on your registered mobile number quoting this Application ID for further reference. Note that all further queries related to the staus of the application can be made only after quoting this Application Id. Hence, you are expected to keep it preserved for further reference.\n\tYou will receive a call from us on your registered mobile number within 7 working days where you will be guided on the further process.\n\tNote that you need to being all the original certificates when your are called for an interview.\n\tWe thank you for your active participation.\n\nWith regards,\nXYZ Hospital, New Delhi" )
    def About_Us(self):
        str_objectives="OUR OBJECTIVES:-\n\nWe at XYZ Hospital, New Delhi always try to provide our patients with the best medical infrastructure, and our 24X7 dedicated medical fraternity are always ready to serve you.\nFOR US OUR JOURNEY ITSELF IS OUR DESTINATION. BE A PART OF THIS MEDICAL REVOLUTION..\n\n"
        str_awards="AWARDS AND RECOGNITIONS:-\n\n(i) Best Multispeciality Hospital across India as per the survey by XXX.\n(ii) Best Cancer Care and Research Institute as per the survey by XXX.\n(iii) The first hospital in the country having the experience of more than X0,000 Open Heart Surgeries..\n\n"
        str_mission="FUTURE PLANS:-\n\nLET'S MAKE A HEALTHY, PROGRESSED AND HIGHLY ACHIEVING INDIA."
        tkinter.messagebox.askokcancel("About Us",str_objectives+str_awards+str_mission)

    def Contact_Us(self):
        str_address="ADDRESS:-\nXYZ Multispeciality Hospital,\n#17, Block II, Saket Road,\nSaket\nNew Delhi-122 002\n\n"
        str_mapview="LINK FOR NAVIGATION THROUGH GOOGLE MAPS:-\nmaps.google.com/sjhhVGY12/jhba\n\n"
        str_emailid="E-MAIL ADDRESSES:-\n(i) For queries regarding patient/doctor registration:\n  xyzregistration@gmail.com\n(ii) For obtaining past health records/medical scans of the patient:\n  xyzpatientsscan@gmail.com\n(iii) For feedbacks:\n xyzfeedbacks@gmail.com\n(iv) For medical fraternity except our doctors and patients(like nurses,etc.):\n  xyzgeneralinfo@gmail.com\n\n"
        str_contact="PHONE NUMBER DIRECTORY:-\n(i) Toll free number:-XXXXXXXXXX\n(ii) General Ward Administrator Contact Number:-XXXXXXXXXX\n(iii) For enquiries of a patient through his/her Patient ID:-XXXXXXXXXX\n\n"
```

```
        tkinter.messagebox.askokcancel("Contact
Us",str_address+str_mapview+str_emailid+str_contact)



#============Creating a new Window for Forgot Username/Password============

class Forgot:
    def __init__(self,master):
        self.master=master
        self.master.title("Forgot Username/Password?")
        self.master.geometry('620x450+186+0')
        self.master.config(bg="white")
        self.frame=Frame(self.master)
        self.frame.grid(row=0,column=0)

        #Creating the required frames
        self.label_frame=LabelFrame(self.frame,bd=0)
        self.label_frame.grid(row=0,column=0)
        self.text_frame=LabelFrame(self.frame,relief="groove",bd=5)
        self.text_frame.grid(row=1,column=0,pady=20)
        self.btn_frame=LabelFrame(self.frame,relief="groove",bd=5)
        self.btn_frame.grid(row=2,column=0)
        self.about_frame=LabelFrame(self.frame,bd=0)
        self.about_frame.grid(row=3,column=0)

        #Creating the required variables
        self.Name=StringVar()
        self.Email=StringVar()
        self.DOB=StringVar()

        #Placing the required widgets
        self.lbl=Label(self.label_frame,text="RETRIEVE USERNAME AND PASSWORD
PAGE",font=("Cambria",18,"bold","underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=0,column=0)
        self.lbl=Label(self.label_frame,text="XYZ HOSPITAL,NEW
DELHI\n",font=("Cambria",12,"underline"))
        self.lbl.grid(row=1,column=0)
        self.lbl=Label(self.label_frame,text="Don't worry, using this window, you can
retrieve\nyour Username just by filling three entries\nand once you're done with that, you
can straigtaway reset your password.\nIt's that easy!! Just confirm it's really
you..",font=("Cambria",12))
        self.lbl.grid(row=2,column=0)
```

```
        self.lbl=Label(self.label_frame,text="ENTRY
FRAME",font=("Cambria",12,"underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=3,column=0)
        self.lbl=Label(self.text_frame,text="Enter your full Name in
CAPS",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=4,column=0,pady=10)
        self.lbl=Label(self.text_frame,text="\tDr.",font=("Cambria",12))
        self.lbl.grid(row=4,column=1,pady=10)

self.txtName=Entry(self.text_frame,font=("Cambria",12),textvar=self.Name,bg="gainsboro"
)
        self.txtName.grid(row=4,column=2,pady=10)
        self.lbl=Label(self.text_frame,text=2*" ",font=("Cambria",12))
        self.lbl.grid(row=4,column=3)
        self.lbl=Label(self.text_frame,text="Enter your E-Mail
Address",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=5,column=0,pady=10)
        self.lbl=Label(self.text_frame,text="\t  ",font=("Cambria",12))
        self.lbl.grid(row=5,column=1,pady=10)

self.txtEmail=Entry(self.text_frame,font=("Cambria",12),textvar=self.Email,bg="gainsboro"
)
        self.txtEmail.grid(row=5,column=2,pady=10)
        self.lbl=Label(self.text_frame,text=2*" ",font=("Cambria",12))
        self.lbl.grid(row=4,column=3)
        self.lbl=Label(self.text_frame,text="Enter the date of birth (in DDMMYYYY
form)",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=6,column=0,pady=10)
        self.lbl=Label(self.text_frame,text="\t  ",font=("Cambria",12))
        self.lbl.grid(row=6,column=1,pady=10)

self.txtDOB=Entry(self.text_frame,font=("Cambria",12),textvar=self.DOB,bg="gainsboro")
        self.txtDOB.grid(row=6,column=2,pady=10)
        self.lbl=Label(self.text_frame,text=2*" ",font=("Cambria",12))
        self.lbl.grid(row=4,column=3)
```

```
        #Creating the Buttons

self.btnSubmit=Button(self.btn_frame,text="Submit",font=("Cambria",12,"bold","underline"
),fg="blue",command=self.submit)
        self.btnSubmit.grid(row=7,column=0)

self.btnReset=Button(self.btn_frame,text="Reset",font=("Cambria",12,"bold","underline"),f
g="blue",command=self.reset)
        self.btnReset.grid(row=7,column=1)
        self.btnAbout=Button(self.about_frame,text="About
us",font=("Cambria",10,"bold","underline"),fg="blue",command=self.About_Us)
        self.btnAbout.grid(row=8,column=0)
        self.lbl=Label(self.about_frame,text=125*" ")
        self.lbl.grid(row=8,column=1)
        self.btnContact=Button(self.about_frame,text="Contact
us",font=("Cambria",10,"bold","underline"),fg="blue",command=self.Contact_Us)
        self.btnContact.grid(row=8,column=2)

#<<<<<<<Creating Functions for Buttons in the Forgot Username/Password Window>>>>

    def reset(self):
        self.Name.set("")
        self.Email.set("")
        self.DOB.set("")
        self.txtName.focus()

    def About_Us(self):
        str_objectives="OUR OBJECTIVES:-\n\nWe at XYZ Hospital, New Delhi always try
to provide our patients with the best medical infrastructure, and our 24X7 dedicated medical
fraternity are always ready to serve you.\nFOR US OUR JOURNEY ITSELF IS OUR
DESTINATION. BE A PART OF THIS MEDICAL REVOLUTION..\n\n"
        str_awards="AWARDS AND RECOGNITIONS:-\n\n(i) Best Multispeciality Hospital
across India as per the survey by XXX.\n(ii) Best Cancer Care and Research Institute as per
the survey by XXX.\n(iii) The first hospital in the country having the experience of more
than X0,000 Open Heart Surgeries..\n\n"
        str_mission="FUTURE PLANS:-\n\nLET'S MAKE A HEALTHY, PROGRESSED
AND HIGHLY ACHIEVING INDIA."
        tkinter.messagebox.askokcancel("About Us",str_objectives+str_awards+str_mission)
```

```
    def Contact_Us(self):
        str_address="ADDRESS:-\nXYZ Multispeciality Hospital,\n#17, Block II, Saket
Road,\nSaket\nNew Delhi-122 002\n\n"
        str_mapview="LINK FOR NAVIGATION THROUGH GOOGLE MAPS:-
\nmaps.google.com/sjhhVGY12/jhba\n\n"
        str_emailid="E-MAIL ADDRESSES:-\n(i) For queries regarding patient/doctor
registration:\n  xyzregistration@gmail.com\n(ii) For obtaining past health records/medical
scans of the patient:\n  xyzpatientsscan@gmail.com\n(iii) For feedbacks:\n
xyzfeedbacks@gmail.com\n(iv) For medical fraternity except our doctors and patients(like
nurses,etc.):\n  xyzgeneralinfo@gmail.com\n\n"
        str_contact="PHONE NUMBER DIRECTORY:-\n(i) Toll free number:-
XXXXXXXXXX\n(ii) General Ward Administrator Contact Number:-
XXXXXXXXXX\n(iii) For enquiries of a patient through his/her Patient ID:-
XXXXXXXXXX\n\n"
        tkinter.messagebox.askokcancel("Contact
Us",str_address+str_mapview+str_emailid+str_contact)

    def submit(self):
        name=(self.Name.get())
        email=(self.Email.get())
        DOB=(self.DOB.get())
        list_of_lists=[]
        l=[]
        with open("Doctor's List.csv","r")as readFile:
            reader=csv.reader(readFile)
            lines=list(reader)
            skip=0
            count=0
            for x in lines:
                skip+=1
                if(skip==1):
                    continue
                else:
                    for y in x:
                        count+=1
                        if(count==1):
                            l.append(y)
                        if(count==2):
                            l.append(y)
                        if(count==7):
                            l.append(y)
                        if(count==10):
                            l.append(y)
                list_of_lists.append(l)
                count=0
```

```
        check=0
        for x in list_of_lists:
            if(x[0]==name and x[2]==email and x[3]==DOB):
                str="You have entered correct credentials.\n\nYour Username
is:\t"+x[1]+"\n\nPlease keep it secured for further usage. You can Reset your Password now
from the next page."
                tkinter.messagebox.askokcancel("Username Retrieved Successfully!!",str)
                self.newwindow=Toplevel(self.master)
                self.app=Reset(self.newwindow)
            else:
                tkinter.messagebox.askyesno("Error in the form filled","You details entered by
you are incorrect. Kindly check again and enter the correct details for retrieving your
username.\n\nIf the problem persists, feel free to contact the Hospital Mangement for further
assistance, the contact numbers of which are accessible from Contact Us on the previous
page.")

#================Creating window for Resetting the Password===============

class Reset:
    def __init__(self,master):
        self.master=master
        self.master.title("Reset Your Password-Doctor's Page")
        self.master.geometry('595x425+200+0')
        self.master.config(bg="white")
        self.frame=Frame(self.master)
        self.frame.grid(row=0,column=0)

        #Creating the required variables
        self.Username=StringVar()
        self.Password1=StringVar()
        self.Password2=StringVar()

        #Creating required frames
        self.label_frame=LabelFrame(self.frame,bd=0)
        self.label_frame.grid(row=0,column=0)
        self.entry_frame=LabelFrame(self.frame,relief="groove",bd=10)
        self.entry_frame.grid(row=1,column=0)
        self.button_frame=LabelFrame(self.frame,bd=0)
        self.button_frame.grid(row=2,column=0)
        self.contact_frame=LabelFrame(self.frame,bd=0)
        self.contact_frame.grid(row=3,column=0)
```

```
        #Placing the required widgets
        self.lbl=Label(self.label_frame,text="XYZ HOSPITAL, NEW
DELHI",font=("Cambria",15,"bold","underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=1,column=0,pady=10)
        self.lbl=Label(self.label_frame,text="We hope you have already recovered your
Username.\n\nOn this page, you can Reset your Password by entering your
Username.\nThese login credentials can be used for logging in in the
future.\n\n",font=("cambria",12))
        self.lbl.grid(row=2,column=0)
        self.lbl=Label(self.label_frame,text="ENTRY
FRAME",font=("Cambria",12,"underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=3,column=0,pady=5)
        self.lbl=Label(self.entry_frame,text="  Enter your Username\t\t\t",font=("Cambria",12))
        self.lbl.grid(row=4,column=0,pady=10)

self.txtUsername=Entry(self.entry_frame,font=("Cambria",12),textvar=self.Username,bg="g
ainsboro")
        self.txtUsername.grid(row=4,column=1,pady=5)
        self.lbl=Label(self.entry_frame,text=5*" ",font=("Cambria",12))
        self.lbl.grid(row=4,column=2,pady=5)
        self.lbl=Label(self.entry_frame,text="  Enter your New
Password\t\t\t",font=("Cambria",12))
        self.lbl.grid(row=5,column=0,pady=10)

self.txtPassword1=Entry(self.entry_frame,font=("Cambra",12),show="*",textvar=self.Passw
ord1,bg="gainsboro")
        self.txtPassword1.grid(row=5,column=1,pady=5)
        self.lbl=Label(self.entry_frame,text=5*" ",font=("Cambria",12))
        self.lbl.grid(row=5,column=2,pady=5)
        self.lbl=Label(self.entry_frame,text="  Retype your new
password\t\t\t",font=("Cambria",12))
        self.lbl.grid(row=6,column=0,pady=10)

self.txtPassword2=Entry(self.entry_frame,font=("Cambria",12),show="*",textvar=self.Pass
word2,bg="gainsboro")
        self.txtPassword2.grid(row=6,column=1,pady=5)
        self.lbl=Label(self.entry_frame,text=5*" ",font=("Cambria",12))
        self.lbl.grid(row=6,column=2,pady=5)
```

```
        #Creating required Buttons

self.btnSubmit=Button(self.button_frame,text="Submit",font=("Cambria",12,"bold"),fg="bl
ue",command=self.Submit)
        self.btnSubmit.grid(row=7,column=0)

self.btnReset=Button(self.button_frame,text="Reset",font=("Cambria",12,"bold"),fg="blue",
command=self.Reset)
        self.btnReset.grid(row=7,column=1)
        self.btnAbout=Button(self.contact_frame,text="About
us",font=("Cambria",10,"bold","underline"),fg="blue",command=self.About_Us)
        self.btnAbout.grid(row=8,column=0)
        self.lbl=Label(self.contact_frame,text=125*" ")
        self.lbl.grid(row=8,column=1)
        self.btnContact=Button(self.contact_frame,text="Contact
us",font=("Cambria",10,"bold","underline"),fg="blue",command=self.Contact_Us)
        self.btnContact.grid(row=8,column=2)

#<<<<<<<<<<<<Creating functions for Buttons on Reset Password Page>>>>>>>>>>>>

    def Submit(self):
        with open("Doctor's List.csv","r")as readFile:
            reader=csv.reader(readFile)
            lines=list(reader)
            lne1=-1
            if(self.Password1.get()==self.Password2.get() and len(self.Password1.get())!=0):
                for x in lines:
                    count=0
                    lne1+=1
                    if(lne1==0):
                        continue
                    for y in x:
                        count+=1
                        if(count==2):
                            if(y==self.Username.get()):
                                lines[lne1][2]=self.Password1.get()
                                with open("Doctor's List.csv","w",newline="")as csvfile:
                                    csvwriter=csv.writer(csvfile)
                                    csvwriter.writerows(lines)
                                str="Your Password change against the entered Username is
successful.\nYour new login credentials
are:\n\nUsername:"+self.Username.get()+"\nPassword:\t"+self.Password1.get()+"\n\nWith
Regards,\nXYZ Hospital, New Delhi"
                                tkinter.messagebox.askokcancel("Password Changed Successfully",str)
```

```
            else:
                tkinter.messagebox.askyesno("Error in Password Entry","Either you haven't
entered any password at all or the entered passwords don't match. Kindly rectify the
same.\n\nIn case the problems persists, feel free to contact our Hospital Management, details
of which are given under Contact Us on the previous page.\n\nWith regards,\nXYZ Hospital,
New Delhi")
                self.Reset()

    def Reset(self):
        self.Username.set("")
        self.Password1.set("")
        self.Password2.set("")
        self.txtUsername.focus()

    def About_Us(self):
        str_objectives="OUR OBJECTIVES:-\n\nWe at XYZ Hospital, New Delhi always try
to provide our patients with the best medical infrastructure, and our 24X7 dedicated medical
fraternity are always ready to serve you.\nFOR US OUR JOURNEY ITSELF IS OUR
DESTINATION. BE A PART OF THIS MEDICAL REVOLUTION..\n\n"
        str_awards="AWARDS AND RECOGNITIONS:-\n\n(i) Best Multispeciality Hospital
across India as per the survey by XXX.\n(ii) Best Cancer Care and Research Institute as per
the survey by XXX.\n(iii) The first hospital in the country having the experience of more
than X0,000 Open Heart Surgeries..\n\n"
        str_mission="FUTURE PLANS:-\n\nLET'S MAKE A HEALTHY, PROGRESSED
AND HIGHLY ACHIEVING INDIA."
        tkinter.messagebox.askokcancel("About Us",str_objectives+str_awards+str_mission)

    def Contact_Us(self):
        str_address="ADDRESS:-\nXYZ Multispeciality Hospital,\n#17, Block II, Saket
Road,\nSaket\nNew Delhi-122 002\n\n"
        str_mapview="LINK FOR NAVIGATION THROUGH GOOGLE MAPS:-
\nmaps.google.com/sjhhVGY12/jhba\n\n"
        str_emailid="E-MAIL ADDRESSES:-\n(i) For queries regarding patient/doctor
registration:\n  xyzregistration@gmail.com\n(ii) For obtaining past health records/medical
scans of the patient:\n  xyzpatientsscan@gmail.com\n(iii) For feedbacks:\n
xyzfeedbacks@gmail.com\n(iv) For medical fraternity except our doctors and patients(like
nurses,etc.):\n  xyzgeneralinfo@gmail.com\n\n"
        str_contact="PHONE NUMBER DIRECTORY:-\n(i) Toll free number:-
XXXXXXXXXX\n(ii) General Ward Administrator Contact Number:-
XXXXXXXXXX\n(iii) For enquiries of a patient through his/her Patient ID:-
XXXXXXXXXX\n\n"
        tkinter.messagebox.askokcancel("Contact
Us",str_address+str_mapview+str_emailid+str_contact)
```

```
#==============Start of Window for Doctor's Personal Page==================

class Doc_Page:
    def __init__(self,master):
        self.master=master
        self.master.title("Doctor's Personal Page")
        self.master.geometry('882x472+74+0')
        self.master.config(bg="white")
        self.frame=Frame(self.master)
        self.frame.grid(row=0,column=0)

        #Creating required frames

        self.label=LabelFrame(self.frame,bd=0)
        self.label.grid(row=0,column=0)
        self.text=LabelFrame(self.frame,relief="groove",bd=10)
        self.text.grid(row=1,column=0)
        self.label_frame=LabelFrame(self.frame,bd=0)
        self.label_frame.grid(row=2,column=0)
        self.text_box=LabelFrame(self.frame,relief="groove",bd=10)
        self.text_box.grid(row=3,column=0)
        self.Label_Frame=LabelFrame(self.frame,bd=0)
        self.Label_Frame.grid(row=4,column=0)
        self.Text_Box=LabelFrame(self.frame,relief="groove",bd=10)
        self.Text_Box.grid(row=5,column=0)
        self.lbl_frame=LabelFrame(self.frame,bd=0)
        self.lbl_frame.grid(row=6,column=0)

        #Creating the required variables

        self.Username=StringVar()
        self.Password=StringVar()
        self.Patname=StringVar()
        self.Patemail=StringVar()
        self.Medication=StringVar()
```

```
        #Placing the required widgets
        self.lbl=Label(self.label,text="DOCTOR'S PERSONAL
PAGE",font=("Cambria",15,"bold","underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=0,column=0)
        self.lbl=Label(self.label,text="In the frame given below, first confirm your login
details, before we authorize you to make any changes in Patient List
contents.",font=("Cambria",12))
        self.lbl.grid(row=1,column=0)
        self.lbl=Label(self.label,text="LOGIN
FRAME",font=("Cambria",12,"bold","underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=2,column=0)
        self.lbl=Label(self.text,text="Enter your Username:\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=3,column=0)

self.txtUsername=Entry(self.text,font=("Cambria",12),bg="gainsboro",textvar=self.Usernam
e)
        self.txtUsername.grid(row=3,column=1)
        self.lbl=Label(self.text,text=15*" ",font=("Cambria",12))
        self.lbl.grid(row=3,column=2)
        self.lbl=Label(self.text,text="Enter your Password:\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=4,column=0)

self.txtPassword=Entry(self.text,font=("Cambria",12),show="*",bg="gainsboro",textvar=sel
f.Password)
        self.txtPassword.grid(row=4,column=1)
        self.lbl=Label(self.text,text=15*" ",font=("Cambria",12))
        self.lbl.grid(row=4,column=2)

self.btnSubmit=Button(self.text,text="Submit",font=("Cambria",12,"underline"),width=10,f
g="blue",command=self.Submit)
        self.btnSubmit.grid(row=3,column=3)

self.btnReset=Button(self.text,text="Reset",width=10,font=("Cambria",12,"underline"),fg="
blue",command=self.Reset)
        self.btnReset.grid(row=4,column=3)
        self.btnAbout=Button(self.lbl_frame,text="About
us",font=("Cambria",10,"bold","underline"),fg="blue",command=self.About_Us)
        self.btnAbout.grid(row=12,column=0)
        self.lbl=Label(self.lbl_frame,text=30*" "+"THANK YOU DOCTOR FOR MAKING
US THE BEST AMONG THE REST ;)"+30*" ",font=("Cambria",12))
        self.lbl.grid(row=12,column=1)
        self.btnContact=Button(self.lbl_frame,text="Contact
us",font=("Cambria",10,"bold","underline"),fg="blue",command=self.Contact_Us)
        self.btnContact.grid(row=12,column=2)
```

#<<<<<<<<<<<<<<Creating Functions for Buttons on the Doctor's Page>>>>>>>>>>>>>>

```
    def About_Us(self):
        str_objectives="OUR OBJECTIVES:-\n\nWe at XYZ Hospital, New Delhi always try to provide our patients with the best medical infrastructure, and our 24X7 dedicated medical fraternity are always ready to serve you.\nFOR US OUR JOURNEY ITSELF IS OUR DESTINATION. BE A PART OF THIS MEDICAL REVOLUTION..\n\n"
        str_awards="AWARDS AND RECOGNITIONS:-\n\n(i) Best Multispeciality Hospital across India as per the survey by XXX.\n(ii) Best Cancer Care and Research Institute as per the survey by XXX.\n(iii) The first hospital in the country having the experience of more than X0,000 Open Heart Surgeries..\n\n"
        str_mission="FUTURE PLANS:-\n\nLET'S MAKE A HEALTHY, PROGRESSED AND HIGHLY ACHIEVING INDIA."
        tkinter.messagebox.askokcancel("About Us",str_objectives+str_awards+str_mission)

    def Contact_Us(self):
        str_address="ADDRESS:-\nXYZ Multispeciality Hospital,\n#17, Block II, Saket Road,\nSaket\nNew Delhi-122 002\n\n"
        str_mapview="LINK FOR NAVIGATION THROUGH GOOGLE MAPS:-\nmaps.google.com/sjhhVGY12/jhba\n\n"
        str_emailid="E-MAIL ADDRESSES:-\n(i) For queries regarding patient/doctor registration:\n  xyzregistration@gmail.com\n(ii) For obtaining past health records/medical scans of the patient:\n  xyzpatientsscan@gmail.com\n(iii) For feedbacks:\n xyzfeedbacks@gmail.com\n(iv) For medical fraternity except our doctors and patients(like nurses,etc.):\n  xyzgeneralinfo@gmail.com\n\n"
        str_contact="PHONE NUMBER DIRECTORY:-\n(i) Toll free number:-XXXXXXXXXX\n(ii) General Ward Administrator Contact Number:-XXXXXXXXXX\n(iii) For enquiries of a patient through his/her Patient ID:-XXXXXXXXXX\n\n"
        tkinter.messagebox.askokcancel("Contact Us",str_address+str_mapview+str_emailid+str_contact)
```

```
    def Submit(self):
        u=(self.Username.get())
        p=(self.Password.get())
        d={}
        with open("Doctor's List.csv","r")as readFile:
            reader=csv.reader(readFile)
            lines=list(reader)
            count=0
            for row in lines:
                count+=1
                if(count==1):
                    continue
                x=0
                for column in row:
                    x+=1
                    if(x==2):
                        d[column]=0
                        x=0
                        for c in row:
                            x+=1
                            if(x==3):
                                d[column]=c
                                break
                        break
        check_for_prescence=0
        for keys in d:
            if(keys==u):
                check_for_prescence=1
                if(d[keys]==p):
                    self.Create()
                else:
                    tkinter.messagebox.askokcancel("Invalid Password","Sorry! But you Password
is incorrect.. Please enter a valid Password")
                    self.Password.set("")
                    self.txtPassword.focus()
        if(check_for_prescence==0):
            tkinter.messagebox.askokcancel("Invalid Username","Sorry! But your Username is
incorrect.. Please enter a valid Username")
            self.Username.set("")
            self.Password.set("")
            self.txtUsername.focus()

    def Reset(self):
        self.Username.set("")
        self.Password.set("")
        self.txtUsername.focus()
```

```
    def Create(self):
        self.lbl=Label(self.label_frame,text="After having logged in, in the following table,
please enter the details\nof the patient whom you are attending by quoting Patient's Name
and E-mail ID.",font=("Cambria",12))
        self.lbl.grid(row=5,column=0)
        self.lbl=Label(self.label_frame,text="PATIENT DETAILS ENTRY
FRAME",font=("Cambria",12),fg="AntiqueWhite4")
        self.lbl.grid(row=6,column=0)
        self.lbl=Label(self.text_box,text="Name of the
Patient:\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=7,column=0)

self.txtPatient_Name=Entry(self.text_box,font=("Cambria",12),bg="gainsboro",textvar=self.
Patname)
        self.txtPatient_Name.grid(row=7,column=1)
        self.lbl=Label(self.text_box,text=15*" ",font=("Cambria",12))
        self.lbl.grid(row=7,column=2)

self.btnSubmit=Button(self.text_box,text="Submit",width=10,font=("Cambria",12,"underlin
e"),fg="blue",command=self.Submit1)
        self.btnSubmit.grid(row=7,column=3)
        self.lbl=Label(self.text_box,text="E-Mail Address of the
Patient:\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=8,column=0)

self.txtEMail=Entry(self.text_box,font=("Cambria",12),bg="gainsboro",textvar=self.Patemai
l)
        self.txtEMail.grid(row=8,column=1)
        self.lbl=Label(self.text_box,text=15*" ",font=("Cambria",12))
        self.lbl.grid(row=8,column=2)

self.btnReset=Button(self.text_box,text="Reset",width=10,font=("Cambria",12,"underline"),
fg="blue",command=self.Reset1)
        self.btnReset.grid(row=8,column=3)

    def Reset1(self):
        self.Patname.set("")
        self.Patemail.set("")
        self.txtPatient_Name.focus()
```

```
    def Submit1(self):
        with open("Patient List.csv","r")as readFile:
            reader=csv.reader(readFile)
            lines=list(reader)
        skip=0
        check_for_prescence=0
        for x in lines:
            skip+=1
            if(skip==1):
                continue
            else:
                if(x[1]==self.Patname.get()):
                    check_for_prescence=1
                    if(x[6]==self.Patemail.get()):
                        doc=x[5]
                        with open("Doctor's List.csv","r")as readFile:
                            reader=csv.reader(readFile)
                            lines=list(reader)
                        for x in lines:
                            if(x[1]==self.Username.get()):
                                if(doc==x[0]):
                                    self.Last_Frame()
                                else:
                                    tkinter.messagebox.askyesno("Patient details don't match with
you","As per our records, the patient had scheduled an appointment with some other doctor.
Kindly convey the same to the patient. In case of discrepancies, kindly contact the Hospital
Management on the contact numbers provided in the Contact Us on the previous page.")
                    else:
                        tkinter.messagebox.askokcancel("Invalid E-Mail Address entered","The E-
Mail Address entered by you is incorrect as per our records. Kindly ask the patient to
provide correct E-Mail Address to you.\n\nIf problem persists, kindly contact the Hospital
Mangement on the contact numbers provided under Contact Us section on the previous
page.")
                        self.Patemail.set("")
                        self.txtEMail.focus()
        if(check_for_prescence==0):
            tkinter.messagebox.askokcancel("Invalid Patient's Name entered","The patient's
name entered by you is incorrect. Please enter the Name of the Patient correctly. Note that
the Name is case-sensitive, and hence write the entire name in Uppercase Letters.\n\nIf the
problem persists, kindly contact the Hospital Mangement on the contact numbers provided
under Contact Us section on the previous page.")
            self.Reset1()
```

```
    def Last_Frame(self):
        self.lbl=Label(self.Label_Frame,text="PATIENT LIST
MODIFICATIONS",fg="AntiqueWhite4",font=("Cambria",12,"underline"))
        self.lbl.grid(row=9)
        self.lbl=Label(self.Text_Box,text="Problem
Resolved/Pending\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=10,column=0)
        self.Resolved=ttk.Combobox(self.Text_Box,values=["---Select---
","Pending","Resolved"])
        self.Resolved.current(0)
        self.Resolved.grid(row=10,column=1)
        self.lbl=Label(self.Text_Box,text=15*" ",font=("Cambria",12))
        self.lbl.grid(row=10,column=2)

self.btnSubmit2=Button(self.Text_Box,text="Submit",width=10,font=("Cambria",12,"underl
ine"),fg="blue",command=self.Submit2)
        self.btnSubmit2.grid(row=10,column=3)
        self.lbl=Label(self.Text_Box,text="Prescribed
Medicines/Scans/Surgeries\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=11,column=0)
        self.Prescriptions=Entry(self.Text_Box,font=("Cambria",12),textvar=self.Medication)
        self.Prescriptions.grid(row=11,column=1)
        self.lbl=Label(self.Text_Box,text=15*" ",font=("Cambria",12))
        self.lbl.grid(row=11,column=2)

self.btnReset2=Button(self.Text_Box,text="Reset",width=10,font=("Cambria",12,"underline
"),fg="blue",command=self.Reset2)
        self.btnReset2.grid(row=11,column=3)

    def Reset2(self):
        self.Medication.set("")
        self.Resolved.current(0)
        self.Prescriptions.focus()
```

```
    def Submit2(self):
        if(str(self.Resolved.get())=="---Select---"):
            tkinter.messagebox.askokcancel("Error in Present Status of Case","You haven't selected any option for the present status of the patient, i.e., whether his problem is resolved or is pending.\nKindly select a valid option for the same before proceeding further.")
            self.Reset2()
        else:
            if(len(self.Medication.get())==0):
                tkinter.messagebox.askokcancel("Error in Medications Prescribed","You haven't prescribed any Medicines/Scans/Surgeries to the patient. Please enter something in the respective text box.\nIf the patient is all good and requires no medical treatment, enter NONE in the text box.")
                self.Reset2()
            else:
                with open("Patient List.csv","r")as readFile:
                    reader=csv.reader(readFile)
                    lines=list(reader)
                l=[]
                for x in lines:
                    if(x[1]==self.Patname.get() and x[6]==self.Patemail.get()):
                        if(len(x)==11):
                            x[9]=str(self.Resolved.get())
                            x[10]=self.Medication.get()
                        else:
                            x.append(str(self.Prescriptions.get()))
                            x.append(self.Medication.get())
                    l.append(x)
                with open("Patient List.csv","w",newline="")as csvfile:
                    csvwriter=csv.writer(csvfile)
                    csvwriter.writerows(l)
                tkinter.messagebox.askokcancel("Succesfully edited","These details have been successfully updated in Patient List.csv. Please give a written prescription to the patient as well and communicate the health status to the patient as well.\n\nTHANKS A LOT FOR HEPING A PATIENT AND KEEPING OUR COUNTRY HEALTHY!!")
                self.newwindow=Toplevel(self.master)
                self.app=Doc_Page(self.newwindow)
```

```
#<<<<<<<<<<<<<<<<<<<<Start of Patient's Master Window>>>>>>>>>>>>>>>>>>>>

class Patient_Window:
    def __init__(self,master):
        self.master=master
        self.master.title("Patient's Portal")
        self.master.geometry('878x486+80+0')
        self.master.config(bg="white")
        self.frame=Frame(self.master)
        self.frame.grid(row=0,column=0)

        #Creating required frames

        self.label_frame=LabelFrame(self.frame,bd=0)
        self.label_frame.grid(row=0,column=0)
        self.login_frame=LabelFrame(self.frame,relief="groove",bd=10)
        self.login_frame.grid(row=1,column=0)
        self.Label_frame=LabelFrame(self.frame,bd=0)
        self.Label_frame.grid(row=2,column=0)
        self.button_frame=LabelFrame(self.frame,bd=0)
        self.button_frame.grid(row=3,column=0)

        #Creating the required variables

        self.PatientID=StringVar()
        self.Password=StringVar()



        #Placing the required widgets

        self.lbl=Label(self.label_frame,text="XYZ HOSPITAL, NEW
DELHI",font=("Cambria",20,"bold","underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=0,column=0)
        self.lbl=Label(self.label_frame,text="Hi!! Welocome to the best Multispeciality
Hospital of New Delhi!! At XYZ Hospital, we always keep Patients as our first
priority.\nOur 24x7 dedicated medical experts are always there to help you. Give us the
oppurtunity to attend to your ailments,\nand experience why we are the best and what
distinguishes us from the rest..",font=("Cambria",12))
        self.lbl.grid(row=1,column=0)
        self.lbl=Label(self.label_frame,text="If you are already a registered patient, you may
login by entering your details in the login frame. In case you have forgot\nyour Patient
ID/Password, kindly contact Hospital Management\nas we can't allow the patients to reset
their passwords without physical verification abiding by the\nprivacy guidelines. If you are a
new patient, you may register yourself under New Patient Registration.\n\nIf you want to
```

```
know more about us and/or want to provide feedback,\nuse Contact Us and/or About Us
buttons.",font=("Cambria",12))
        self.lbl.grid(row=2,column=0,pady=5)
        self.lbl=Label(self.label_frame,text="PATIENT LOGIN
FRAME",font=("Cambria",12,"bold","underline"),fg="blue")
        self.lbl.grid(row=3,column=0,pady=5)
        self.lbl=Label(self.login_frame,text="Enter Patient ID in the space
provided\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=4,column=0,pady=10)

self.txtName=Entry(self.login_frame,font=("Cambria",12),bg="gainsboro",textvar=self.Pati
entID)
        self.txtName.grid(row=4,column=1)
        self.lbl=Label(self.login_frame,text=3*" ",font=("Cambria",12))
        self.lbl.grid(row=4,column=2)
        self.lbl=Label(self.login_frame,text="Enter your E-Mail Address in the space
provided\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=5,column=0,pady=10)
self.txtPassword=Entry(self.login_frame,font=("Cambria",12),bg="gainsboro",textvar=self.
Password)
        self.txtPassword.grid(row=5,column=1)
        self.lbl=Label(self.login_frame,text=3*" ",font=("Cambria",12))
        self.lbl.grid(row=5,column=2)

        #Placing the required Buttons
self.btnSubmit=Button(self.Label_frame,text="Submit",font=("Cambria",12,"underline"),fg
="blue",command=self.Submit)
        self.btnSubmit.grid(row=8,column=0)
self.btnReset=Button(self.Label_frame,text="Reset",font=("Cambria",12,"underline"),fg="bl
ue",command=self.Reset)
        self.btnReset.grid(row=8,column=1)
        self.lbl=Label(self.button_frame,text="",font=("Cambria",12))
        self.lbl.grid(row=9,column=0)
        self.btnContact_us=Button(self.button_frame,text="Contact
Us",font=("Cambria",10,"underline"),fg="blue",command=self.Contact_Us)
        self.btnContact_us.grid(row=10,column=0)
        self.lbl=Label(self.button_frame,text=55*" ",font=("Cambria",12))
        self.lbl.grid(row=10,column=1)
        self.btnRegistration=Button(self.button_frame,text="New Patient
Registartion",font=("Cambria",10,"underline"),fg="blue",command=self.Registration)
        self.btnRegistration.grid(row=10,column=2)
        self.lbl=Label(self.button_frame,text=55*" ",font=("Cambria",12))
        self.lbl.grid(row=10,column=3)
        self.btnAbout_us=Button(self.button_frame,text="About
Us",font=("Cambria",10,"underline"),fg="blue",command=self.About_Us)
        self.btnAbout_us.grid(row=10,column=4)
```

```
#<<<<<<<<<<<<Creating buttons for functions on the Patient Master Window>>>>>>>>>>

    def Credentials(self):
        d={}
        with open("Patient List.csv","r")as readFile:
            reader=csv.reader(readFile)
            lines=list(reader)
        count=0
        for row in lines:
            count+=1
            if(count==1):
                continue
            x=0
            for column in row:
                x+=1
                if(x==1):
                    d[column]=0
                    x=0
                    for c in row:
                        x+=1
                        if(x==7):
                            d[column]=c
                            break
                    break
        return(d)

    def Submit(self):
        u=(self.PatientID.get().strip())
        p=(self.Password.get())
        d=self.Credentials()
        check_for_prescence=0
        for keys in d:
            if(keys==u):
                check_for_prescence=1
                if(d[keys]==p):
                    with open("Patient List.csv","r")as readFile:
                        reader=csv.reader(readFile)
                        lines=list(reader)
                    l=[]
                    skip=0
                    for x in lines:
                        skip+=1
                        if(skip==1):
                            continue
```

```
                if(x[0]==u):
                    l=x
            string="Dear Mr./Mrs. "+l[1]+",\n\n\tWelcome to the XYZ Hospital, New Delhi. We hope this finds you in high spirits and you are all good!!\n\tIn this page, we are going to give you all your details which have been registered with us, alongwith the prescribed dosages/medicines/scans/surgeries.\n\nPROBLEM RESOLVED OR NOT:\t"+l[9]+"\nPRESCRIBED MEDICATIONS/SCANS TO BE DONE/SURGERIES TO BE PERFORMED:\t"+l[10]+"\n\nGeneral Details:\nPatient ID:\t"+str(l[0])+"\nAge of the Patient:\t"+l[2]+"\nYour Doctor:\t"+l[5]+"\nYour E-Mail Address:\t"+l[6]+"\nYour Registered Mobile Number:\t"+l[7]+"\n\n\tHope that's all what you desired to get..\n\tWant to know something more? Feel free to contact our Hospital Mangement.. That's all from us at the moment..\n\nWith Regards,\nXYZ Hospital, New Delhi"
                tkinter.messagebox.askyesno("Login Successful",string)
            else:
                tkinter.messagebox.askyesno("Invalid E-Mail Address","Your entered E-Mail Address is incorrect. Kindly rectify it to proceed.\n\nIf problem persists, kindly contact the Hospital Management on the contact numbers provided under the Contact Us section.")
                self.Password.set("")
                self.txtPassword.focus()
        if(check_for_prescence==0):
            tkinter.messagebox.askyesno("Invalid PatientID entered","The Patient ID entered by you is incorrect as per our record. Kindly enter the correct Patient ID to continue.\n\nIn case the probelm persists, contact the Hospital Mangement who will guide you to recover your Patient ID, and the contact numbers of which have been provided in the Contact Us section..")
            self.PatientID.set("")
            self.Password.set("")
            self.txtName.focus()

    def Reset(self):
        self.PatientID.set("")
        self.Password.set("")
        self.txtName.focus()

    def Registration(self):
        self.newwindow=Toplevel(self.master)
        self.app=Patient_Registration(self.newwindow)
```

```
    def About_Us(self):
        str_objectives="OUR OBJECTIVES:-\n\nWe at XYZ Hospital, New Delhi always try to provide our patients with the best medical infrastructure, and our 24X7 dedicated medical fraternity are always ready to serve you.\nFOR US OUR JOURNEY ITSELF IS OUR DESTINATION. BE A PART OF THIS MEDICAL REVOLUTION..\n\n"
        str_awards="AWARDS AND RECOGNITIONS:-\n\n(i) Best Multispeciality Hospital across India as per the survey by XXX.\n(ii) Best Cancer Care and Research Institute as per the survey by XXX.\n(iii) The first hospital in the country having the experience of more than X0,000 Open Heart Surgeries..\n\n"
        str_mission="FUTURE PLANS:-\n\nLET'S MAKE A HEALTHY, PROGRESSED AND HIGHLY ACHIEVING INDIA."
        tkinter.messagebox.askokcancel("About Us",str_objectives+str_awards+str_mission)

    def Contact_Us(self):
        str_address="ADDRESS:-\nXYZ Multispeciality Hospital,\n#17, Block II, Saket Road,\nSaket\nNew Delhi-122 002\n\n"
        str_mapview="LINK FOR NAVIGATION THROUGH GOOGLE MAPS:-\nmaps.google.com/sjhhVGY12/jhba\n\n"
        str_emailid="E-MAIL ADDRESSES:-\n(i) For queries regarding patient/doctor registration:\n  xyzregistration@gmail.com\n(ii) For obtaining past health records/medical scans of the patient:\n  xyzpatientsscan@gmail.com\n(iii) For feedbacks:\n xyzfeedbacks@gmail.com\n(iv) For medical fraternity except our doctors and patients(like nurses,etc.):\n  xyzgeneralinfo@gmail.com\n\n"
        str_contact="PHONE NUMBER DIRECTORY:-\n(i) Toll free number:-XXXXXXXXXX\n(ii) General Ward Administrator Contact Number:-XXXXXXXXXX\n(iii) For enquiries of a patient through his/her Patient ID:-XXXXXXXXXX\n\n"
        tkinter.messagebox.askokcancel("Contact Us",str_address+str_mapview+str_emailid+str_contact)
```

```
#==================Creating the window for Patient Registration============

class Patient_Registration:
    def __init__(self,master):
        self.master=master
        self.master.title("New Patient Registration")
        self.master.geometry("652x500+180+0")
        self.master.config(bg="white")
        self.frame=Frame(self.master)
        self.frame.grid(row=0,column=0)

        #Creating the required variables


        self.name=StringVar()
        self.illness=StringVar()
        self.contact=StringVar()
        self.email=StringVar()
        self.address=StringVar()

        #Creating the required frames


        self.label_frame=LabelFrame(self.frame,bd=0)
        self.label_frame.grid(row=0,column=0)
        self.text_box=LabelFrame(self.frame,relief="groove",bd=10)
        self.text_box.grid(row=1,column=0)
        self.btnFrame=LabelFrame(self.frame,bd=0)
        self.btnFrame.grid(row=2,column=0)
        self.btn_frame=LabelFrame(self.frame,bd=0)
        self.btn_frame.grid(row=3,column=0)
```

```
        #Placing the required widgets
        self.lbl=Label(self.label_frame,text="PATIENT REGISTRATION
PORTAL",font=("Cambria",20,"bold","underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=0,column=0)
        self.lbl=Label(self.label_frame,text="Welcome to XYZ Hospital, New Delhi!! Don't
worry.. We have medical experts who have\nvast experience of the most complicated of
medical procedures.\nYou will soon be freed of all your diseases. All you need to do is
to\nfill the registration form below, and we will soon get in touch with
you!!",font=("Cambria",12))
        self.lbl.grid(row=1,column=0)
        self.lbl=Label(self.label_frame,text="Not sure of the Department which you want to
refer?\nContact our Hospital Management at once..",font=("Cambria",12))
        self.lbl.grid(row=2,column=0)
        self.lbl=Label(self.label_frame,text="APPLICATION'S
FRAME",font=("Cambria",12,"underline"),fg="AntiqueWhite4")
        self.lbl.grid(row=3,column=0)
        self.lbl=Label(self.text_box,text="Enter your name\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=4,column=0)

self.txtName=Entry(self.text_box,font=("Cambria",12),bg="gainsboro",textvar=self.name)
        self.txtName.grid(row=4,column=1)
        self.lbl=Label(self.text_box,text=3*" ",font=("Cambria",12))
        self.lbl.grid(row=4,column=2)
        self.lbl=Label(self.text_box,text="Select your age(in
years)\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=5,column=0)
        self.Age=ttk.Combobox(self.text_box,values=["---Select---"]+list(range(100)))
        self.Age.current(0)
        self.Age.grid(row=5,column=1)
        self.lbl=Label(self.text_box,text="Enter your problem in
brief\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=6,column=0)

self.txtIllness=Entry(self.text_box,font=("Cambria",12),bg="gainsboro",textvar=self.illness)
        self.txtIllness.grid(row=6,column=1)
        self.lbl=Label(self.text_box,text=3*" ",font=("Cambria",12))
        self.lbl.grid(row=6,column=2)
        self.lbl=Label(self.text_box,text="Select the
Department\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=7,column=0)
        self.Department=ttk.Combobox(self.text_box,values=["---Select---","Bariatric
Surgery","Cardiac Surgery","Cardiology","Critical Care","Dental
Surgery","Dermatology","Emergency Medicine","Endocrinology","ENT","Gastroentrology
and GI Surgery","General and Laparoscopic Surgery","Gynecology and
Obsterics","Haematology","Internal Medicine","Kidney Transpant","Lab
```

```
Sciences","Nephrology","Neurology","Neurosurgery","Nuclear Medicine","Nutrition and
Dietetics","Oncology","Opthalmology","Orthopaedics and
Joints","Paediatrics","Physiotherapy","Psychiatry and Psychology","Plastic and
Reconstructive Surgery","Pulmonology","Radiology","Spine Services","Urology"])
        self.Department.current(0)
        self.Department.grid(row=7,column=1)
        self.btnAssure=Button(self.text_box,text="Click me if you have entered the
department",fg="blue",font=("Cambria",10),command=self.Assure)
        self.btnAssure.grid(row=8,column=1)
        self.lbl=Label(self.text_box,text="",font=("Cambria",12))
        self.lbl.grid(row=9,column=0)
        self.lbl=Label(self.text_box,text="Enter your E-Mail
Address\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=10,column=0)

self.txtEmail=Entry(self.text_box,font=("Cambria",12),bg="gainsboro",textvar=self.email)
        self.txtEmail.grid(row=10,column=1)
        self.lbl=Label(self.text_box,text=3*" ",font=("Cambria",12))
        self.lbl.grid(row=10,column=2)
        self.lbl=Label(self.text_box,text="Enter your Contact
Number(+91)\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=11,column=0)

self.txtContact=Entry(self.text_box,font=("Cambria",12),bg="gainsboro",textvar=self.contac
t)
        self.txtContact.grid(row=11,column=1)
        self.lbl=Label(self.text_box,text=3*" ",font=("Cambria",12))
        self.lbl.grid(row=11,column=2)
        self.lbl=Label(self.text_box,text="Enter your Contact
Address\t\t",font=("Cambria",12),fg="blue")
        self.lbl.grid(row=12,column=0)

self.txtAddress=Entry(self.text_box,font=("Cambria",12),bg="gainsboro",textvar=self.addre
ss)
        self.txtAddress.grid(row=12,column=1)
        self.lbl=Label(self.text_box,text=3*" ",font=("Cambria",12))
        self.lbl.grid(row=12,column=2)
```

```
        #Creating the required Buttons

self.btnSubmit=Button(self.btnFrame,text="Submit",font=("Cambria",12,"underline"),fg="b
lue",command=self.Submit)
        self.btnSubmit.grid(row=16,column=0)

self.btnReset=Button(self.btnFrame,text="Reset",command=self.Reset,font=("Cambria",12,
"underline"),fg="blue")
        self.btnReset.grid(row=16,column=1)
        self.btnAbout=Button(self.btn_frame,text="About
Us",font=("Cambria",10,"underline"),fg="blue",command=self.About_Us)
        self.btnAbout.grid(row=17,column=0)
        self.btnDoc=Label(self.btn_frame,text=135*" ",font=("Cambria",10),fg="blue")
        self.btnDoc.grid(row=17,column=1)
        self.btnContact=Button(self.btn_frame,text="Contact
Us",font=("Cambria",10,"underline"),fg="blue",command=self.Contact_Us)
        self.btnContact.grid(row=17,column=2)

#<<<<<<<<<<<<<<<<<<Creating required functions for Buttons>>>>>>>>>>>>>>>>>>>

    def About_Us(self):
        str_objectives="OUR OBJECTIVES:-\n\nWe at XYZ Hospital, New Delhi always try
to provide our patients with the best medical infrastructure, and our 24X7 dedicated medical
fraternity are always ready to serve you.\nFOR US OUR JOURNEY ITSELF IS OUR
DESTINATION. BE A PART OF THIS MEDICAL REVOLUTION..\n\n"
        str_awards="AWARDS AND RECOGNITIONS:-\n\n(i) Best Multispeciality Hospital
across India as per the survey by XXX.\n(ii) Best Cancer Care and Research Institute as per
the survey by XXX.\n(iii) The first hospital in the country having the experience of more
than X0,000 Open Heart Surgeries..\n\n"
        str_mission="FUTURE PLANS:-\n\nLET'S MAKE A HEALTHY, PROGRESSED
AND HIGHLY ACHIEVING INDIA."
        tkinter.messagebox.askokcancel("About Us",str_objectives+str_awards+str_mission)

    def Contact_Us(self):
        str_address="ADDRESS:-\nXYZ Multispeciality Hospital,\n#17, Block II, Saket
Road,\nSaket\nNew Delhi-122 002\n\n"
        str_mapview="LINK FOR NAVIGATION THROUGH GOOGLE MAPS:-
\nmaps.google.com/sjhhVGY12/jhba\n\n"
        str_emailid="E-MAIL ADDRESSES:-\n(i) For queries regarding patient/doctor
registration:\n  xyzregistration@gmail.com\n(ii) For obtaining past health records/medical
scans of the patient:\n  xyzpatientsscan@gmail.com\n(iii) For feedbacks:\n
xyzfeedbacks@gmail.com\n(iv) For medical fraternity except our doctors and patients(like
nurses,etc.):\n  xyzgeneralinfo@gmail.com\n\n"
        str_contact="PHONE NUMBER DIRECTORY:-\n(i) Toll free number:-
XXXXXXXXXX\n(ii) General Ward Administrator Contact Number:-
```

```
XXXXXXXXXX\n(iii) For enquiries of a patient through his/her Patient ID:-
XXXXXXXXXX\n\n"
        tkinter.messagebox.askokcancel("Contact
Us",str_address+str_mapview+str_emailid+str_contact)

    def Assure(self):
        if(str(self.Department.get())=="---Select---"):
            tkinter.messagebox.askokcancel("Button falsely Pressed","\n\nSorry!! But you need
to press the button only if you have selected a valid department from the drop-down
menu.\nKindly take into account the same and fill the form again.\n\nWith regards,\nXYZ
Hospital, New Delhi")
            self.Reset()
        else:
            dep=str(self.Department.get())
            with open("Doctor's List.csv","r")as readFile:
                reader=csv.reader(readFile)
                lines=list(reader)
            l=["---Select---"]
            for x in lines:
                if(x[3]==dep):
                    l.append(x[0])
            self.lbl=Label(self.text_box,text="Choose a doctor from the
list\t\t",font=("Cambria",12),fg="blue")
            self.lbl.grid(row=9,column=0)
            self.Doctor=ttk.Combobox(self.text_box,values=l)
            self.Doctor.current(0)
            self.Doctor.grid(row=9,column=1)
            self.lbl=Label(self.text_box,text=3*" ",font=("Cambria",12))
            self.lbl.grid(row=9,column=2)

    def Reset(self):
        self.contact.set("")
        self.email.set("")
        self.name.set("")
        self.illness.set("")
        self.address.set("")
        self.Department.current(0)
        self.Age.current(0)
```

```
    def Submit(self):
        if(len(self.name.get())==0):
            tkinter.messagebox.askokcancel("Error in Name entry","You haven't enterd your
Name in the respective text box. Kindly enter a valid name before proceeding further.")
        else:
            if(len(self.illness.get())==0):
                tkinter.messagebox.askokcancel("Error in Medical Problem entry","You haven't
entered anything in the text-box supposed for entry of medical problem. Kindly rectify the
same before proceeding further.")
            else:
                if(len(self.contact.get())!=10):
                    tkinter.messagebox.askokcancel("Error in Conntact Number entry","You have
entered an invalid contact number. Please rectify the same before proceeding further.")
                else:
                    if(len(self.email.get())==0):
                        tkinter.messagebox.askokcancel("Error In E-Mail Address entry","You
haven't entered anything in the text-box for entering E-Mail address. Please rectify the same
before proceeding futher.")
                    else:
                        if(len(self.address.get())==0):
                            tkinter.messagebox.askokcancel("Error in Residential Address
entered","You haven't entered anything in the text-box for entering your Residential address.
Please rectify the same before proceeding further.")
                        else:
                            if(str(self.Department.get())=="---Select--"):
                                tkinter.messagebox.askokcancel("Error in Department Entry","You
haven't selected any department. In case you don't know about the department, kindly feel
free to contact the Hospital Mangement on the contact numbers provided in the Contact Us
section. After selecting the department, click on the button to get a list if available doctors in
that department.")
                            else:
                                if(str(self.Age.get())=="---Select---"):
                                    tkinter.messagebox.askokcancel("Error in Age Entry","You haven't
selected any value for your Age in years. Kindly select an age of the patient entry before
proceeding ahead.")
                                else:
                                    id=uuid.uuid4()
```

```
entry=[[str(id),self.name.get(),self.Age.get(),self.illness.get(),self.Department.get(),self.Doctor.get(),self.email.get(),self.contact.get(),self.address.get()]]
                        with open("Patient List.csv","r")as readFile:
                            reader=csv.reader(readFile)
                            lines=list(reader)
                        l=lines+entry
                        with open("Patient List.csv","w",newline="")as csvfile:
                            csvwriter=csv.writer(csvfile)
                            csvwriter.writerows(l)
                        stri="Dear Mr./Mrs. "+self.name.get()+",\n\n\tYour registration is successful, and you are very close to get all your ailments resolved. Our Hospital Management will call you within 1 working day to provide you with your appointment date and time.\n\tTill then, you can contact our Hospital Mangement for any queries. While contacting, you need to quote your Patient ID to be\t"+str(id)+".\n\tKeep your Patient ID secured for further usage.\n\nWith Regards,\nXYZ Hospital, New Delhi."
                        tkinter.messagebox.askyesno("Successful Registration of the Patient",stri)


#===<><><><><><>Ending the Program for Hospital Management System<><><><><><>===

#Last Statement:-/

if __name__=='__main__':
    main()

#HOPE YOU ENJOYED IT.. I DID FOR SURE WHILE CODING THIS ;)
```

CONTENTS OF THE CSV FILE NAMED "Doctor's List.csv": -

Part-1 of the CSV file "Doctor's List.csv": - (Columns A-D, Rows 1-5)

	A	B	C	D
1	Name of the Doctor	Username for Login	Password for Login	Department of Expertise
2	ABC	ABC@xyz	Red	Cardiology
3	DEF	DEF@xyz	Green	ENT
4	GHI	GHI@xyz	Blue	Cardiology
5	JKL	JKL@xyz	Yellow	ENT

Part-2 of the CSV file "Doctor's List.csv": - (Columns E-I, Rows 1-5)

	E	F	G	H	I
1	Qualifications in Brief	Address in Breief	Email ID	Contact Number	Work Experience
2	M.D.	New Delhi	abc@gmail.com	1234567890	14
3	M.D.	Gurgaon	def@gmail.com	2134567890	12
4	M.D.	New Delhi	ghi@gmail.com	1243567890	15
5	M.D.	Gurgaon	jkl@gmail.com	1234657890	13

Part-3 of the CSV file "Doctor's List.csv": - (Columns J-L, Rows 1-5)

	J	K	L
1	Date of Birth	Research and Publications	Languages Spoken
2	14081977	Open-Heart Surgery-Latest Methods and Procedures	English, Hindi
3	15121974	Ear Operations	English, Hindi, French
4	30061975	Cardiac Arrest Special Cases	English, Hindi
5	20121972	Tymphanic Membrane Ruptures	English, Hindi, German

CONTENTS OF THE CSV FILE “Patient List.csv”: -

Part-1of the CSV file “Patient List.csv”: - (Columns A-D, Rows 1 and 2)

	A	B	C	D
1	Patient ID	Patient Name	Patient Age	Problem in Brief
2	ec01cf0f-9564-40ff-ba44-4f294a36192c	ABCDE	17	PAIN IN CHEST

Part-2 of the CSV file “Patient List.csv”: - (Columns E-H, Rows 1 and 2)

	E	F	G	H
1	Department of Consultation	Doctor you want to consult	E-Mail Address	Contact Number
2	Cardiology	ABC	abcde@gmail.com	9122966491

Part-3 of the CSV file “Patient List.csv”: - (Columns H-K, Rows 1 and 2)

	H	I	J	K
1	Contact Number	Residential Address	Present Status(Pending/Resolved)	Prescribed Medicines/Scans/Surgeries
2	9122966491	GURGAON	Pending	OPEN HEART SURGERY

CONTENTS OF THE CSV FILE "New Applications.csv": -

Part-1 of the file "New Applications.csv": - (Columns A-D, Rows 1 and 2)

	A	B	C	D
1	Application ID	Name of the Doctor	Department	Qualifications
2	0b561390-5b85-489b-868d-773f527bf6e2	CDE	Cardiac Surgery	M.D.

Part-2 of the file "New Applications.csv": - (Columns E-H, Rows 1 and 2)

	E	F	G	H
1	Address	Email ID	Contact Number	Work Experience
2	Gurgaon	cde@gmail.com	1298765430	15

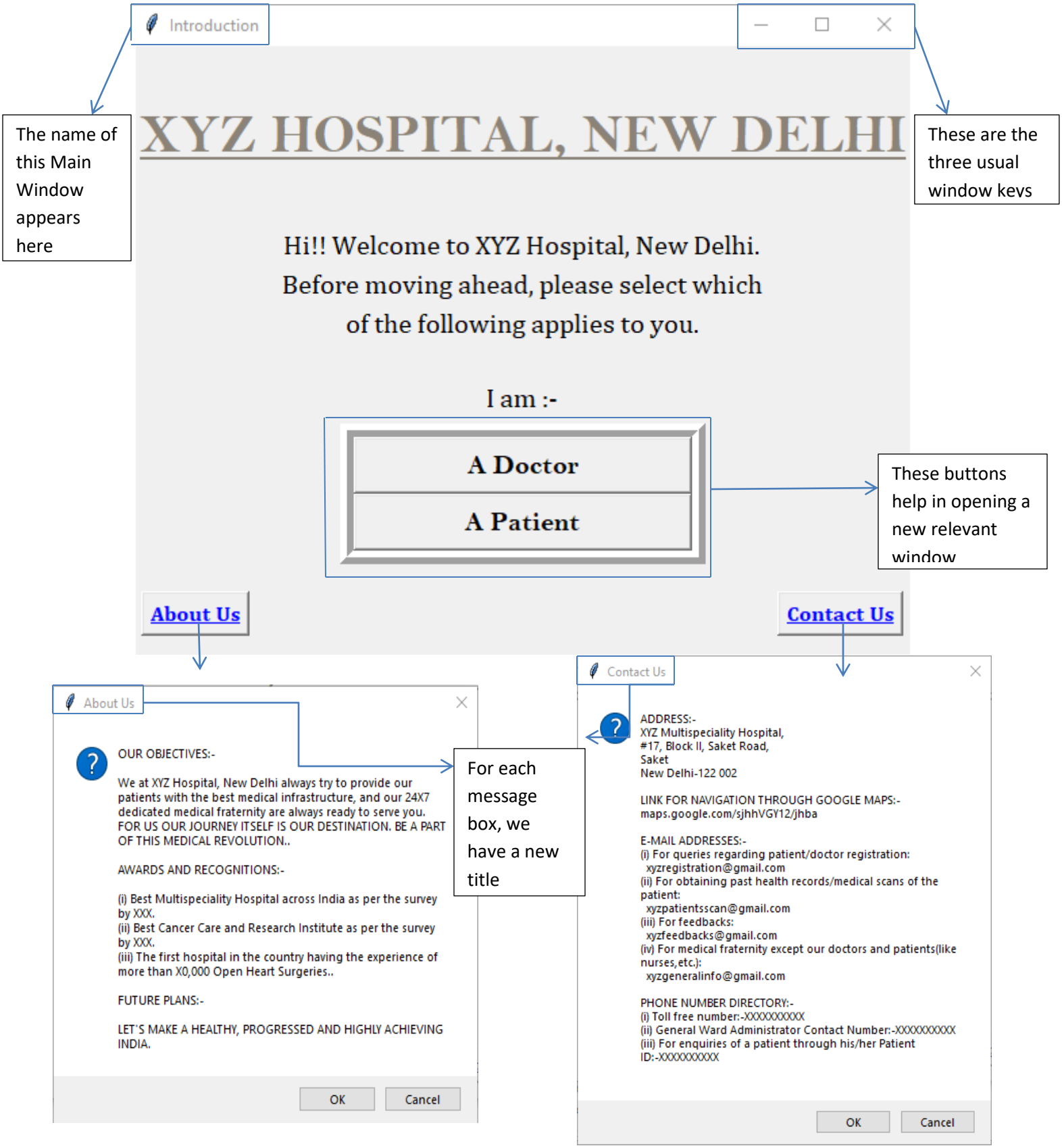
Part-3 of the file "New Applications.csv": - (Columns, Rows 1 and 2)

	I	J	K
1	Date of Birth	Research and Publications	Languages Spoken
2	24101980	Minimal Invasive Surgery	English, Hindi, Latin

USER MANUAL FOR THE PROGRAM: -

(A) Main Window and the significance of various buttons on it:-

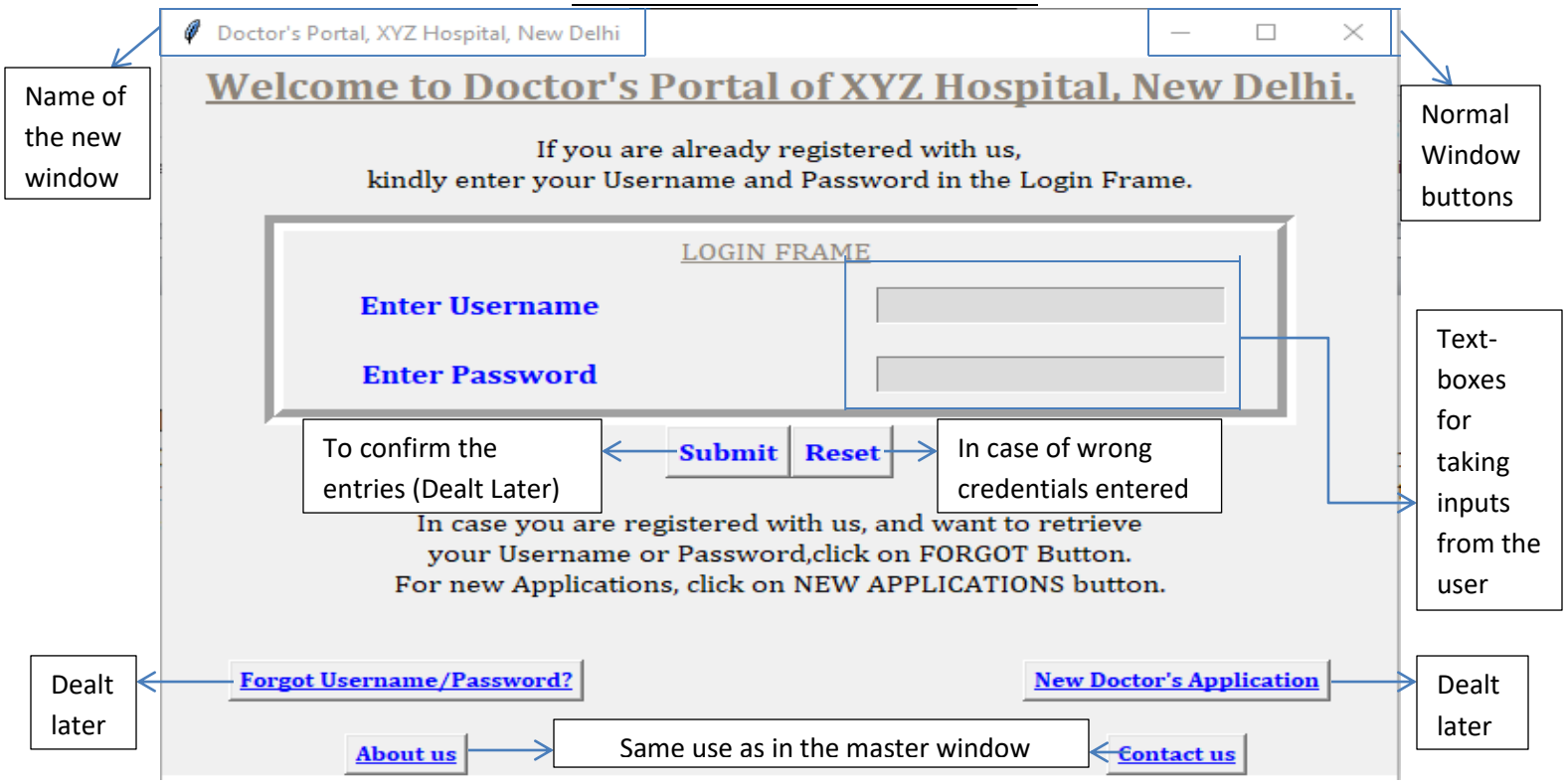
As soon as you run the program, you would see the following window. In the below image, you can check out for what happens when you click each of the buttons available on the Main Window:



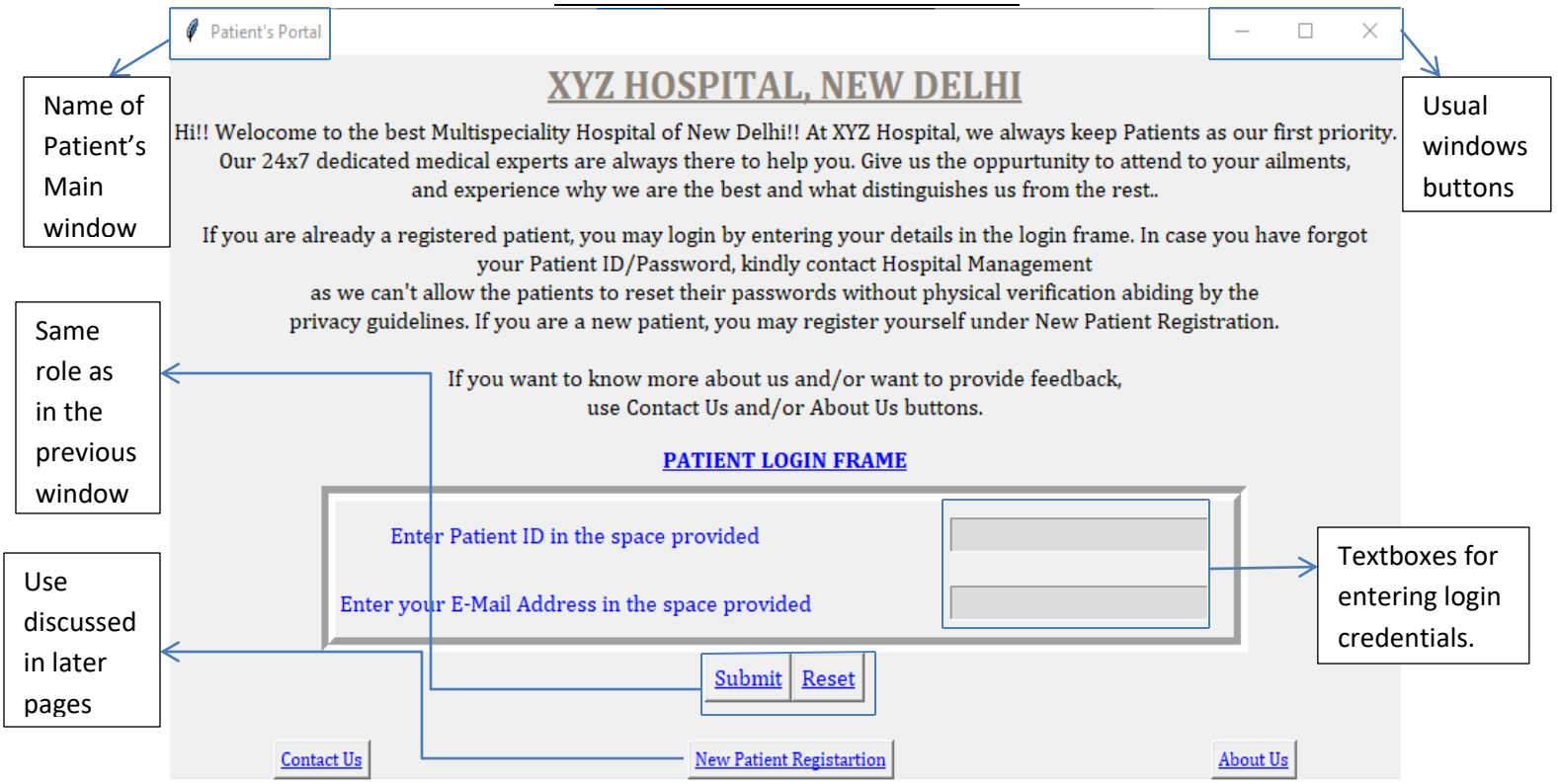
(B) Doctor's and Patient's Main Windows and the significance of various buttons on it: -

On the preceding page, you have already seen the specifications of the Main Window. In this part, we will see the specifications of the Main Doctor's and Patient's Window, which you can get to by clicking "A Doctor" or "A Patient" button on the main window:

DOCTOR'S MAIN WINDOW



PATIENT'S MAIN WINDOW

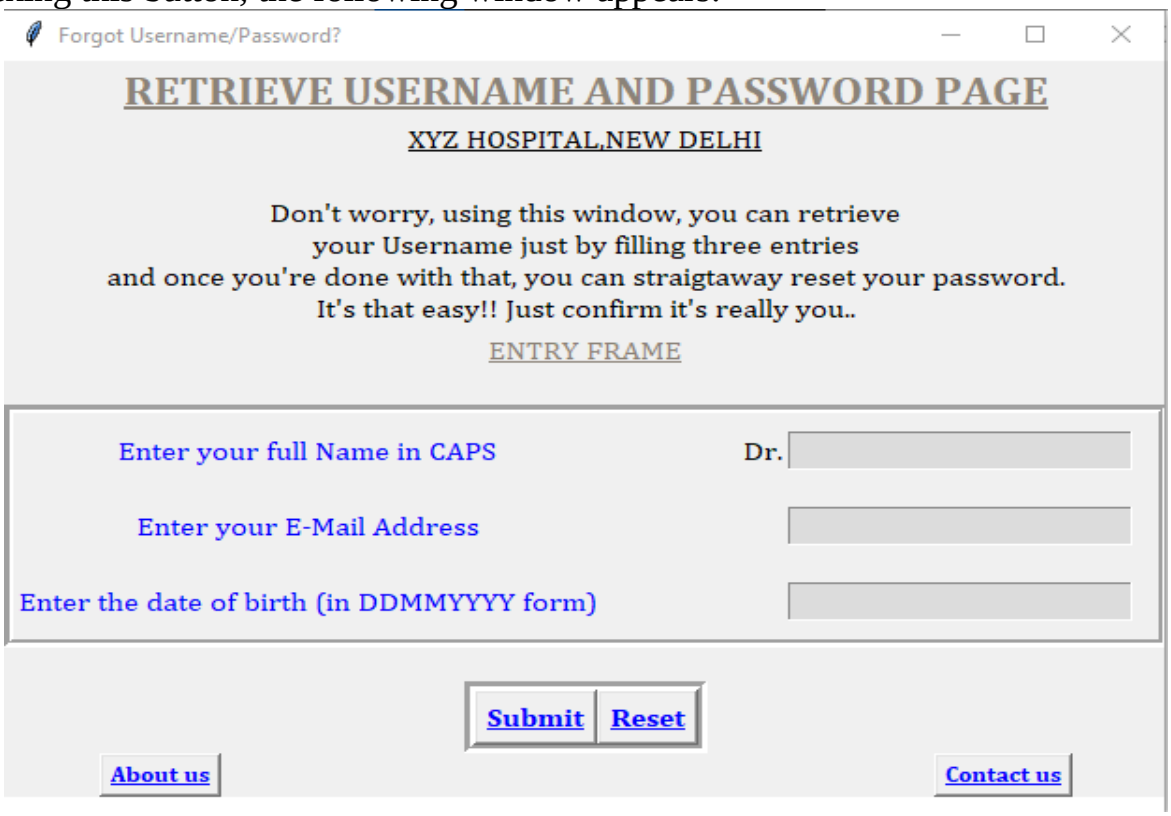


(C) Significance of leftover buttons on the Doctor's Main Window: -

On the Doctor's Window, three of the buttons have been told to be dealt with later on. Here, we shall discuss their functionalities one-by-one.

(i) Significance of "Forgot Username/Password?" button: -

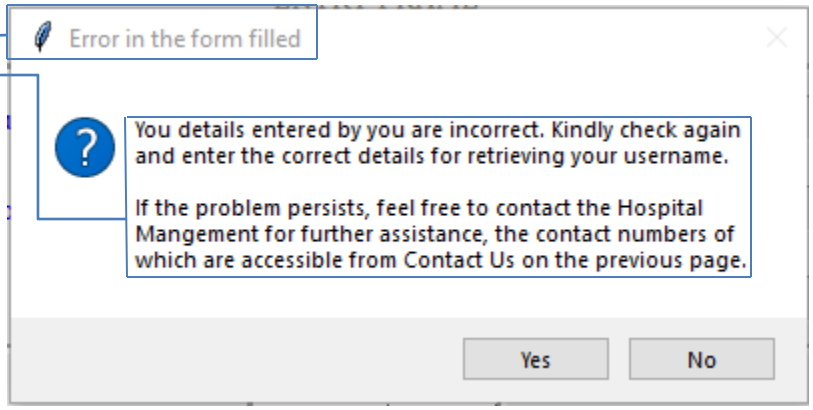
On clicking this button, the following window appears: -



(Tip: -TO GET TO KNOW CORRECT CREDENTIALS, REFER TO "Doctor's List.csv")

If the entered values don't match/ date of birth entered is in incorrect format or E-Mail ID has been entered in an incorrect format, an appropriate error message shall be displayed in each case. For example, here is one of the error messages: -

Similar messages with different relevant headings and content shall be displayed on making various kinds of errors.

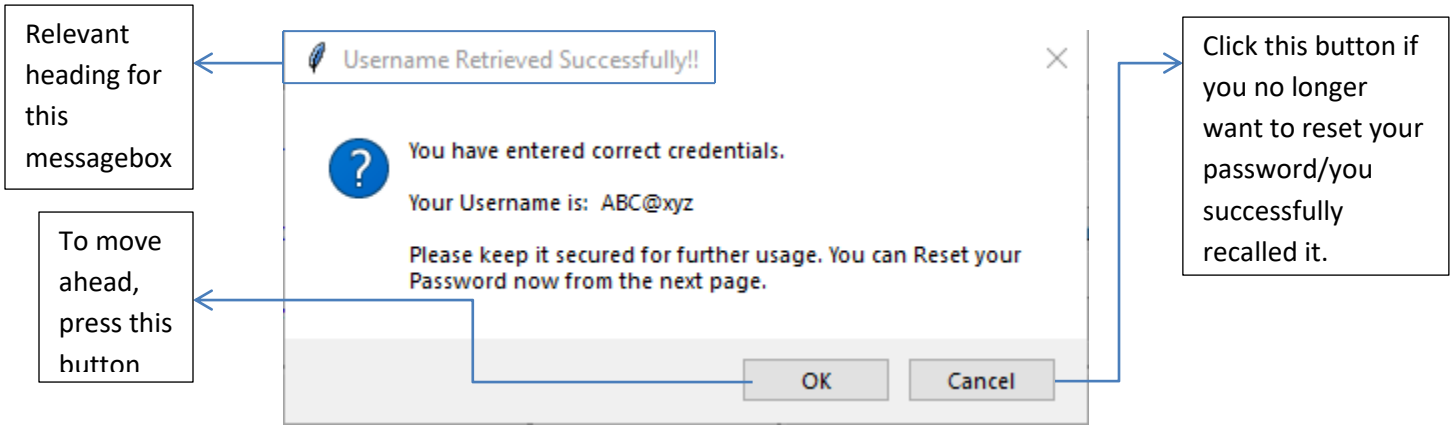


Similar error messages with different names of message-box will be displayed for different categories of errors.

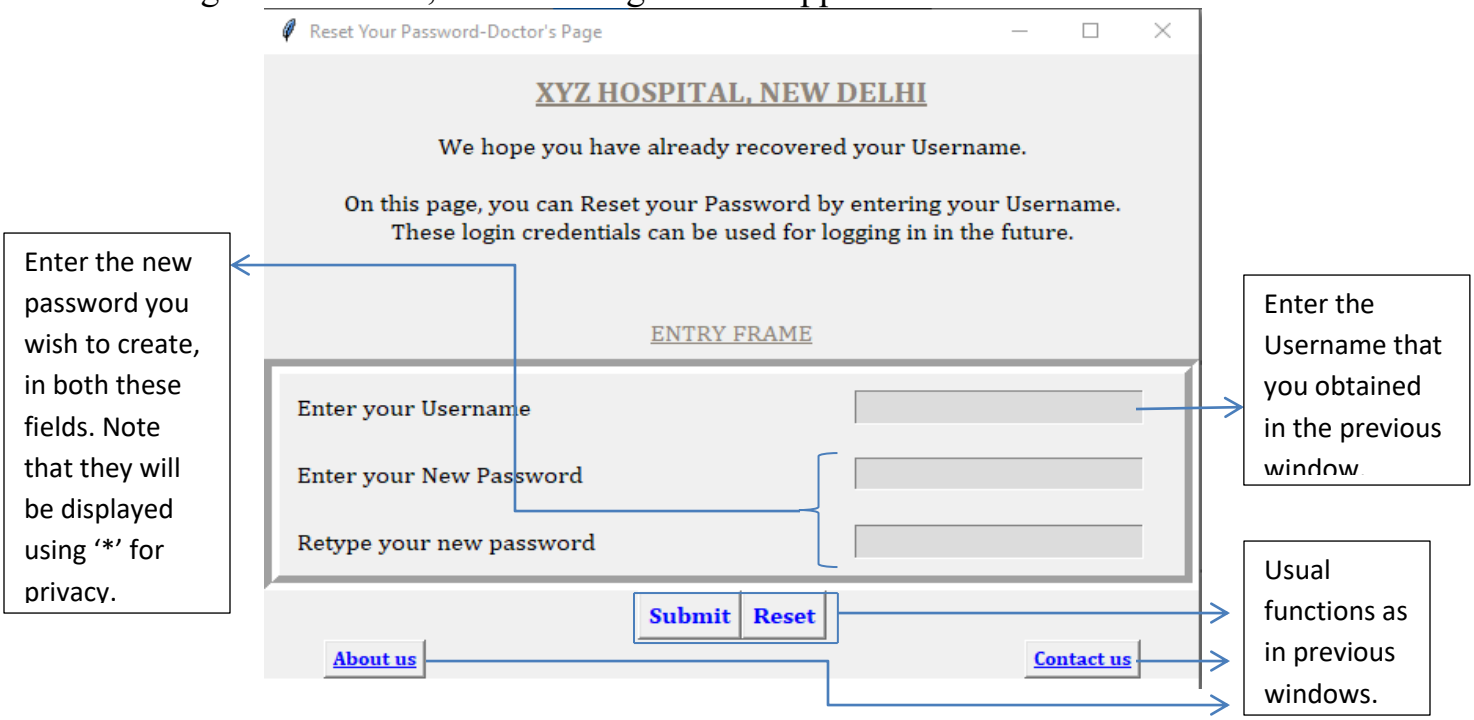
YOU MAY YOURSELF TRY OUT THE REST BY ENTERING WRONG DETAILS!!

However, if you enter correct details in order to reset your password and click on Submit, the following window appears: -

(Here, we have tried to Password credentials for Dr. ABC.)



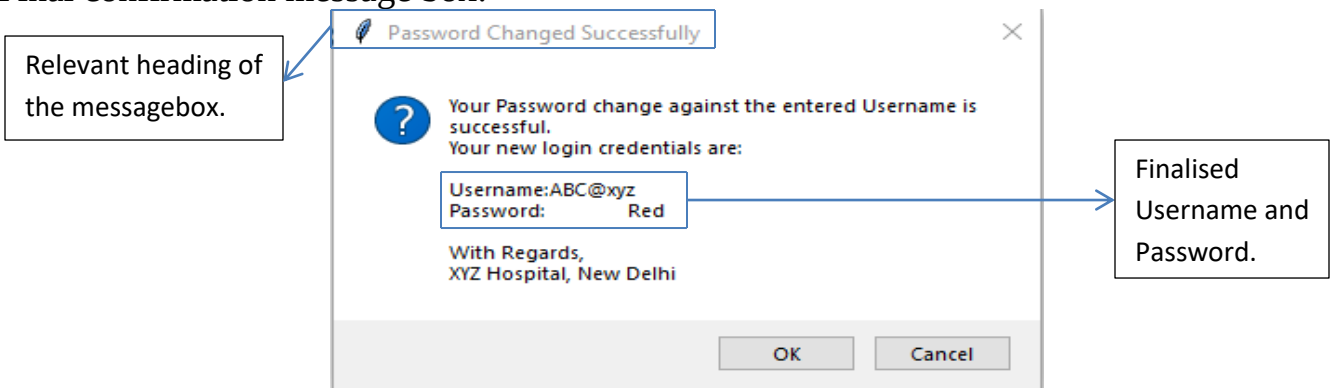
On clicking "OK" Button, the following window appears: -



Here, we entered the password as "Red", and on clicking the "Submit" button, you will see a new message-box, confirming that your details have been successfully updated.

SO, RESETTING PASSWORD AND RETRIEVAL OF USERNAME IS SUPER-EASY !!!

Final confirmation message box:-

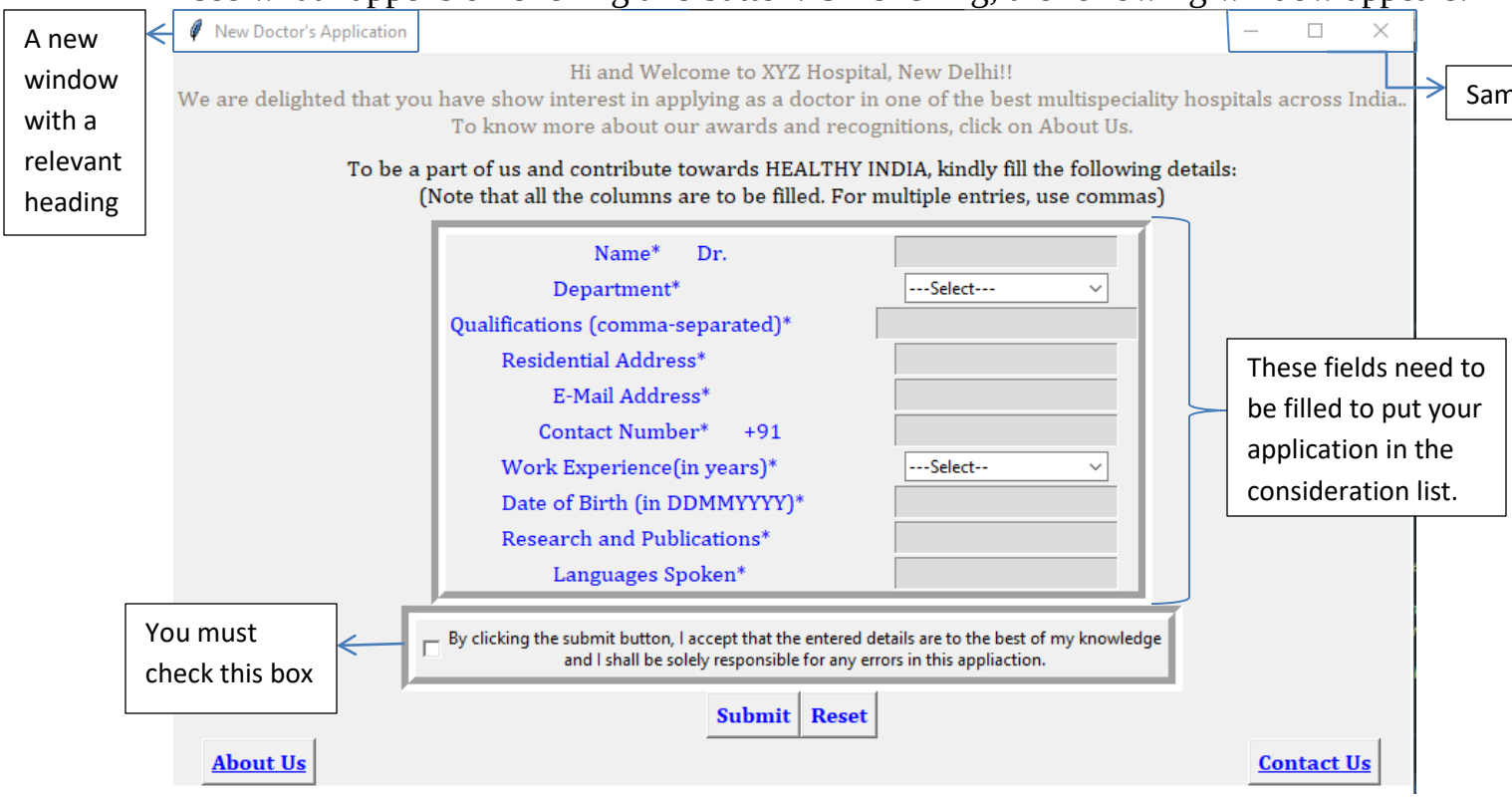


(ii) Significance of "New Doctor's Application" button: -

This button can basically be used to apply for a New Doctor's Post in the hospital.

BUT ONLY APPLYING DOESN'T GUARANTEE YOU WILL BE EMPLOYED. YOUR DETAILS WILL BE SUBMITTED IN "New Applications.csv", AND OUR HOSPITAL MANAGEMENT WOULD DECIDE WHETHER OR NOT TO ACCEPT YOU, ONLY AFTER VERIFYING ORIGINAL DOCUMENTS..

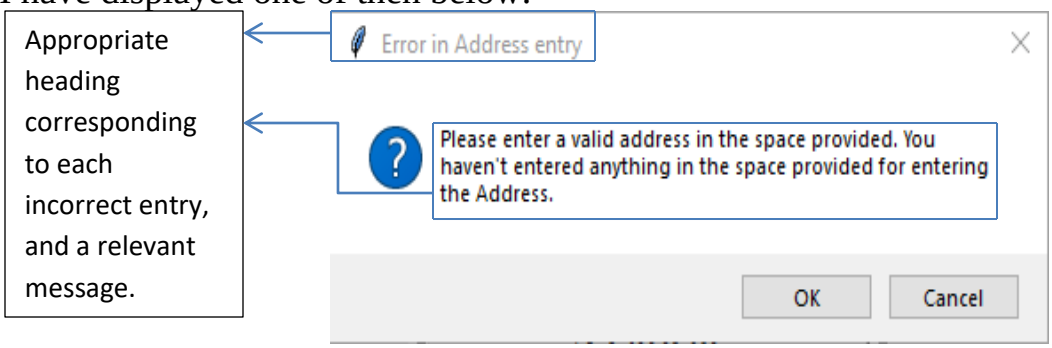
Let's see what happens on clicking this button. On clicking, the following window appears:



IF YOU MAKE ANY ERROR IN ANY OF THE FIELDS, an appropriate error message will be displayed. This error message is different if you enter wrong DOB, wrong work experience, incorrect no. of digits in the phone number, etc.

YOU ARE ENCOURAGED TO EXPLORE THESE YOURSELF, AS THESE ARE HUGE IN NUMBER!!!

I have displayed one of then below: -

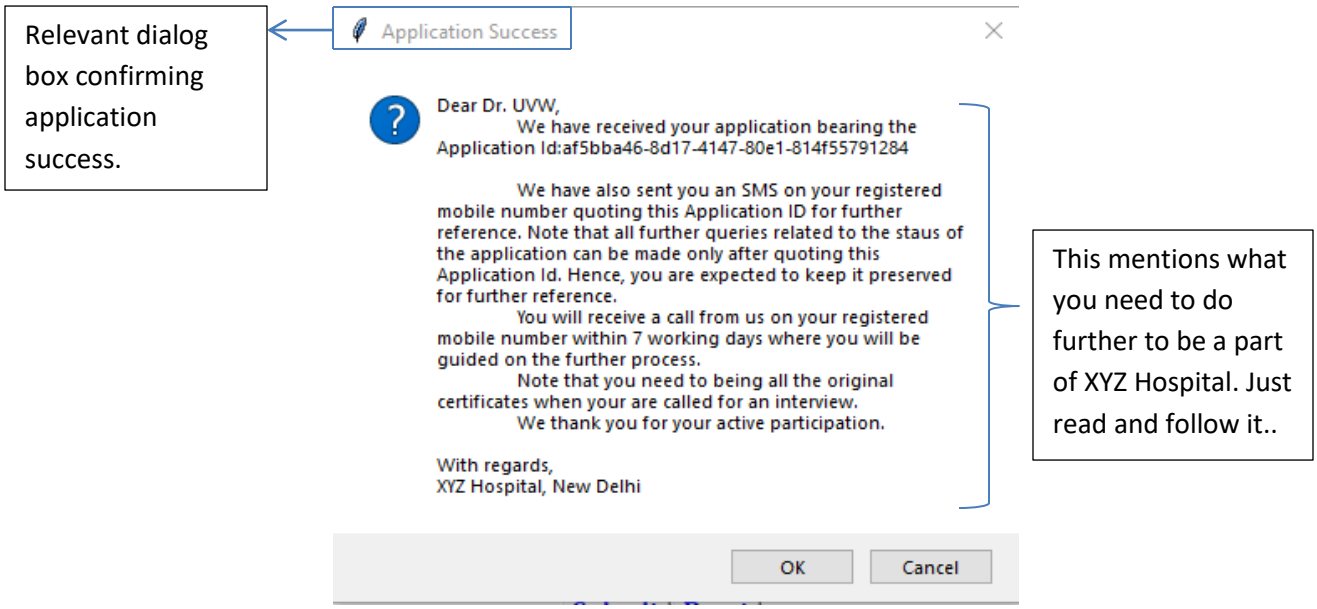


Even for a single entry, there can be multiple error messages, as per different errors.

Now, let's check what happens when you enter everything correctly.

Also, for you to apply, a large number of departments are available for you to choose from. **There are more than 35 departments to choose from.. Try them out yourself..**

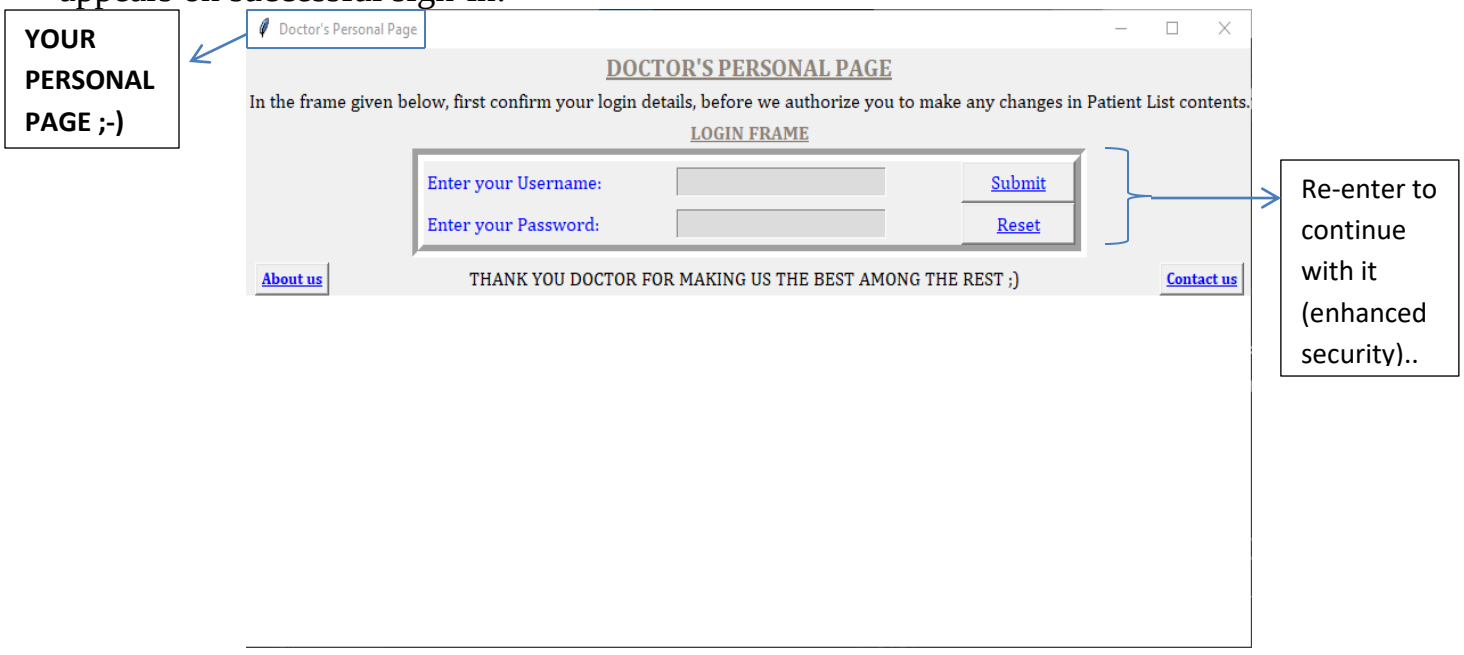
Final display after having entered all details correctly: -



HOPE YOU FOUND IT EASY!! YOU CAN CHECK YOURSELF THAT YOUR DETAILS HAVE BEEN ADDED IN THE CSV FILE.

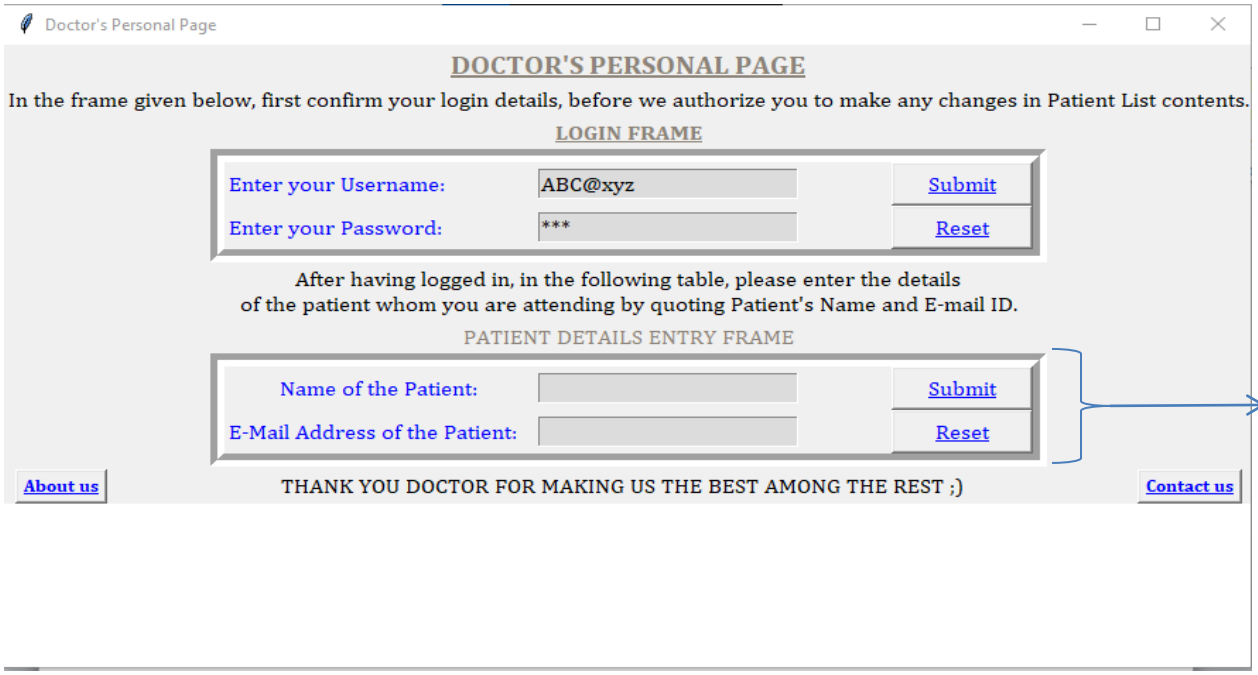
(iii) Significance of "Submit" button on Doctor's Main Window: -

If you enter the correct login details, i.e. your Username and your Password in the Login Frame and click on the Submit button, you will get to your own dedicated page, where you have several functionalities. Here, I am signing in as ABC. Here is the window which appears on successful sign-in:



This window has multiple small windows in it, which keeps on appearing as and when you keep on pressing the right keys after entering the correct details automatically. The window keeps on expanding with each button press, so that **you can comfortably enter and look-out for all the details on the same page instead of toggling b/w windows.**

On entering correctly the asked details, the next window-within-window opens as shown below:



Fill these as described below, and click on Submit..

Now, in the next window, you need to ask the patient whom you are attending for his Name and E-Mail ID. Also, he must have taken prior appointment before reaching. If he has not taken appointment, appropriate error shall be displayed (check out for it yourself). If the details entered are correct, the next window opens as shown below:

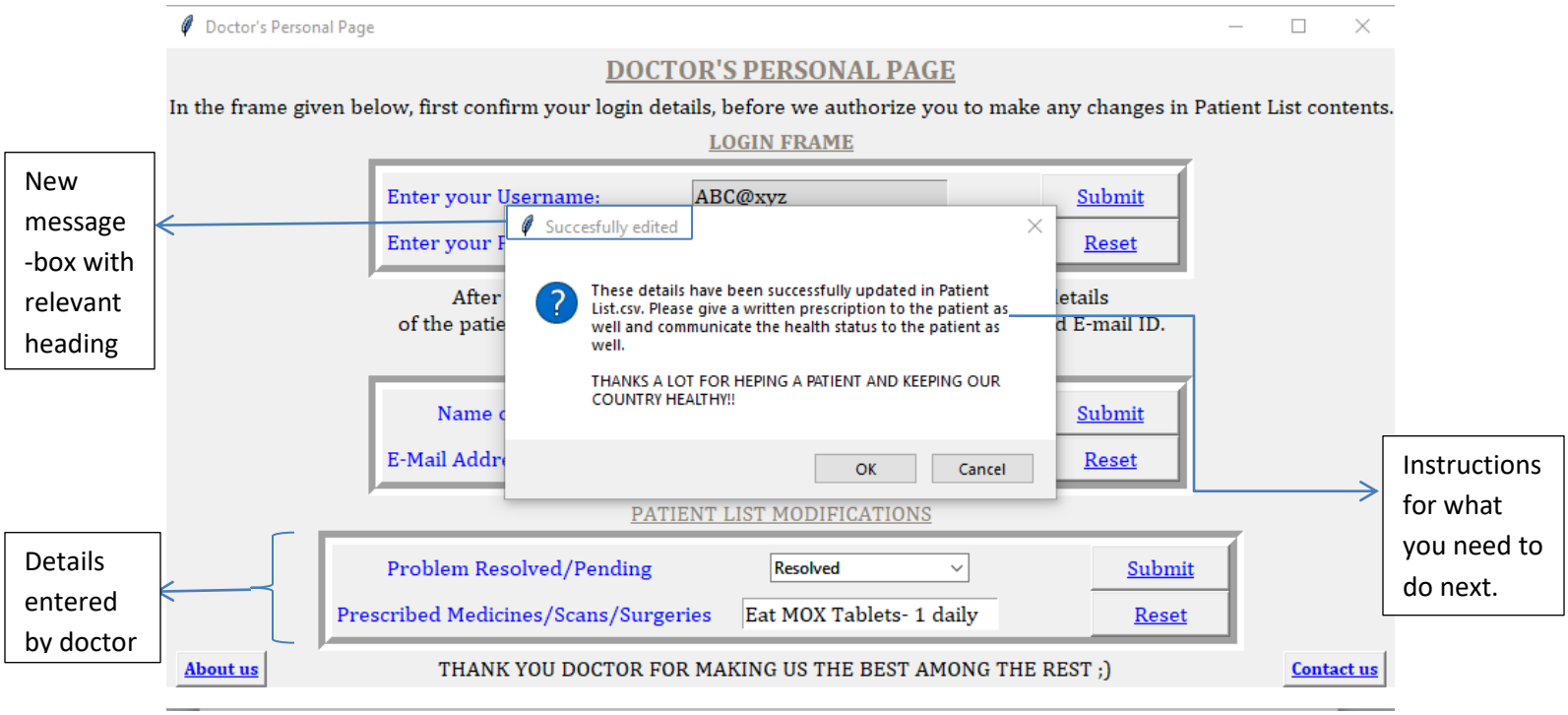
Fill these details to proceed.

Now, you need to modify the details of the patient. In the first drop-down menu, you need to enter whether the problem of the patient is resolved or not, and in the 2nd entry box, you need to write down Prescribed Medicines/Scans/Surgeries for the Patient. Then, click on Submit.

We filled here that the Patient's problem has been resolved, and prescribed him with MOX Tablets, 1 daily, as can be seen in the bottommost part of the following image.

You need to suggest him the medications in the text box, and the file Patient Lsit.csv would get automatically updated with these details. Thus, the Patient can easily check his prescription later on !!

As soon as you click on Submit, the "Successfully edited" messagebox is displayed, as can be seen in the image below. We have shown both the window and messagebox in the same image:



It also starts to accept further values for Patient's Name and E-Maild ID, and you continue **to trat more patients and serve or nation !!**

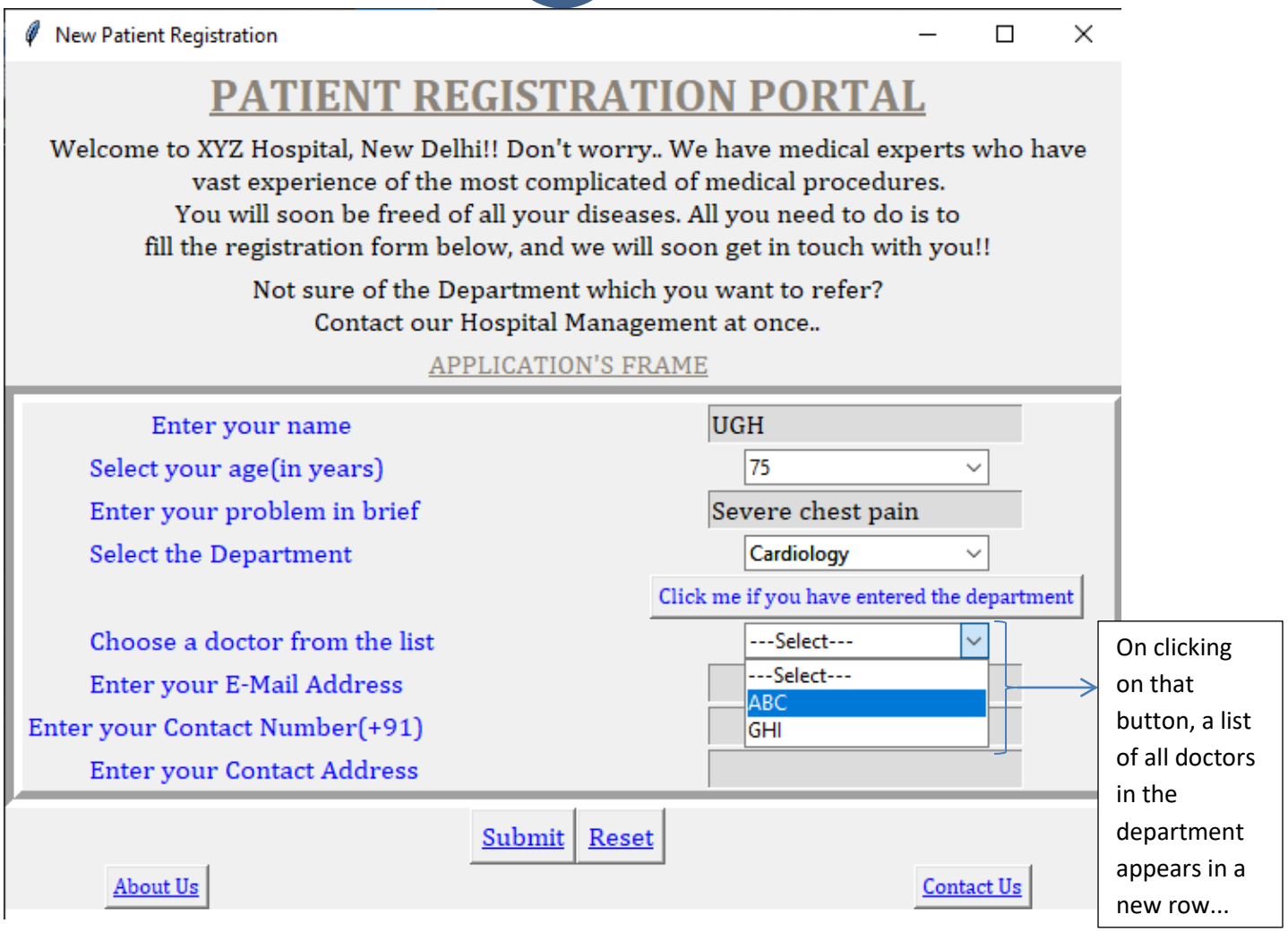
(D) Significance of leftover buttons on the Patient's Main Window: -

Now, after being through with all the buttons of the Doctor's Main Window, we move to the leftover buttons of the Patient's Main Window, and we would discuss all these buttons and their roles one-by-one in detail:

(i) Significance of "New Patient Registration" button in the Patient's Main Window:- If you want to schedule an appointment with one of the expert doctors of the hospital, and you haven't registered with us before, you can do so by clicking on this button. On clicking this button, the window which opens looks like:

After entering your problem in brief, and filling out the relevant fields, you need to select the department you want to refer to for your ailment. After having entered the department you wish to refer to, click on the button "Click me if you have entered the department". You will see that all the doctors available in the hospital of that department will be available to you in the form of a list as shown:

(HERE, JUST LIKE PREVIOUS WINDOWS, IF YOU ENTER WRONG DETAILS, LIKE INCORRECT DOB LIKE 29022002, WHICH IS NOT FEASIBLE, YOU WILL GET INDIVIDUAL ERRORS)



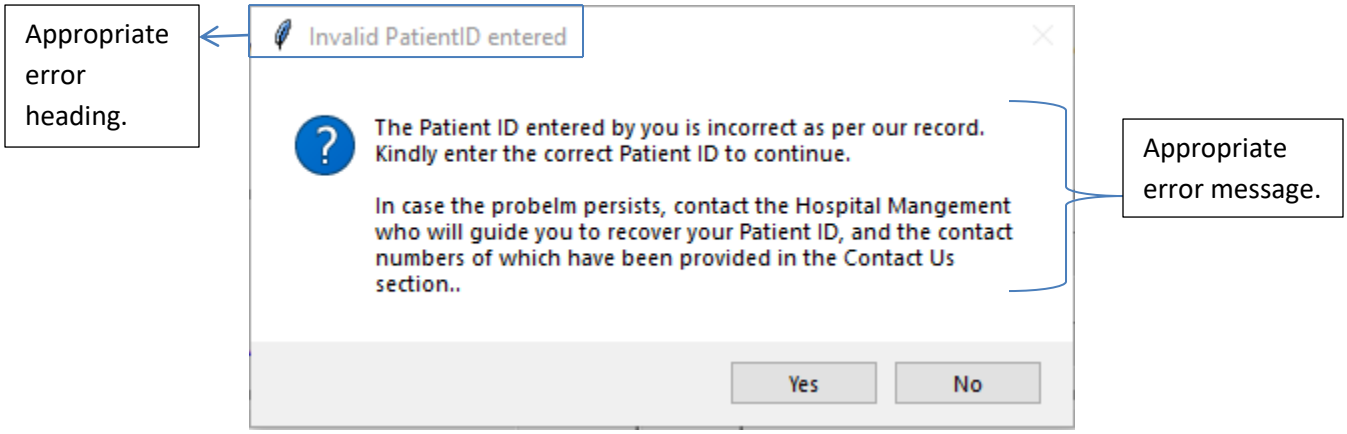
For example, here we have selected Cardiology department and as soon as we click on the button, **another row, which was invisible initially, gets added automatically, which contains all the doctors in that department!!!**
Select the doctor of your choice and proceed.
Then, on filling all the fields, click on "Submit" button. The following message appears:

As you must have felt, Patient Registration is so easy in XYZ Hospital!!!

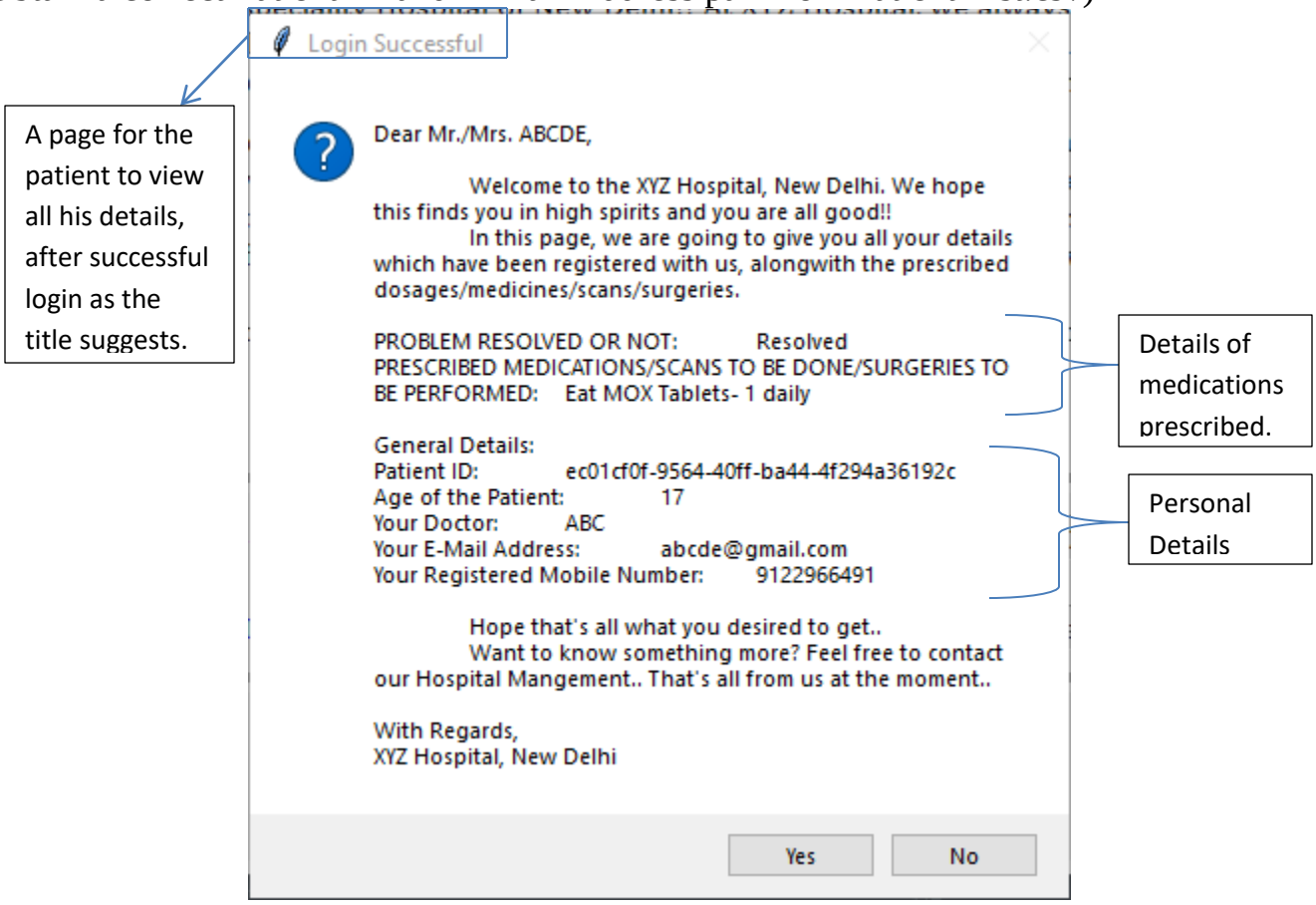
(ii) Significance of "Submit" button in the Patient's Main Window:-

In Patient's Portal, if you are already a registered patient and you want to view the medications prescribed to you, or your details, or the doctor you visited, or whether your problem has been sorted or not, in all such cases, you can simply enter your Patient ID and registered E-Mail in the relevant spaces provided and click on Submit.

On this page also, appropriate error messages will be displayed if you enter something in an invalid format/your login details are incorrect. If you enter incorrect login details, the following message-box appears:



If however you enter correct ID and E-Mail Address, you will get all your details as: (Obtain a correct Patient ID and E-Mail Address pair from Patient List.csv)



The patient can view all his details from the above message-box easily, and can also see his personal details registered with the hospital, medications, etc. All this makes it user-friendly

AND WITH THAT, WE COME TO THE END OF THIS PROJECT WORK!!

HOPE YOU ALL ENJOYED IT THOROUGHLY, AND BECAME AWARE OF ALL ITS USES FOR ANY HOSPITAL, BOTH FOR PATIENTS AND DOCTORS ASSOCIATED WITH IT!

The following sources were helpful:-

1. Computer Science with Python by Sumita Arora (Dhanpat Rai and Co. Publisher) for class XI and XII.
2. Several online websites, which were used as and when required for error rectification/identification, and/or reducing the length of project work.