

ST. ANNES SCHOOL

JODHPUR



COMPUTER SCIENCE PROJECT

2021-22

PROJECT: - SCHOOL DATABASE MANAGEMENT

SOFTWARE

Submitted By: -

Mridul Goyal

Submitted To: -

Archana Agarwal

C.B.S.E Roll Number: -11670920

CERTIFICATE

This is to certify that “**Mridul Goyal**” of “**St. Anne’s Senior secondary school**” of class **XII-A** has completed his Computer science project entitled “**Student Database Management Software**” under the guidance of “**Mrs. Archana Aggarwal**”. The project has been completed with all checks and up to the standard of submission to CBSE.

Mrs. Archana Aggarwal

PGT Computer Science
Teacher

External Examiner

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ACKNOWLEDGEMENT

I would like to express my gratitude to Mrs. Archana Aggarwal to provide me with this golden opportunity while guiding me to make such a great Project.

I also thank my parents and sibling for supporting me to make the project more user responsive and interactive project while want to thank my sister to help me Design the project to make it more user-friendly.

Lastly, I would like to thank my classmates who helped me finalize the project.

INTRODUCTION

School database management system aims to make the management of the students and teachers present in the school. The user-friendly interface of the project provides a seamless experience to the user with integrated Graphics and the use of excel for the management of the databases makes the management of data very easy.

You can manage large databases with full capacity without slowing down your experience while the user can copy the database files and share them with any person. You can modify each teacher/student data while each teacher gets a user Id to manage the database of the class which has been assigned to them, while the necessary checks of Aadhar, registration number, and other data parameters have been put the software allows the user to carry out management tasks efficiently and with ease.

ABSTRACT

The program contains the following modules:-

Tkinter Module:- The Tkinter module is used in the program to provide a graphical user interface to the program which makes the program more easier and comfortable to use.

Captcha:- the captcha module is imported into the program to provide a captcha to the user which increases the security of the programs along with necessary checks on captcha are put on the captcha to check and generate a new captcha whenever the user opens the captcha.

Tkcalendar:- the tkcalender module is imported into the program to provide the calendar to help the user select the dates via calendar while feeding dates in the information of students and teachers.

CSV MODULE:- the CSV module is imported into the program to create comma-separated files that can be imported in excel and can be manipulated easily and the user can share these files easily

PICKLE MODULE:- the pickle module is imported into parts of the program to speed up the processing of the program and provide a seamless performance to the user

SYSTEM REQUIREMENTS

- OS: Windows 7 or higher recommended
- 64 Bit Operating System recommended
- Microsoft 2011 or higher required
- Storage: - 200 Mb or more required
- Ram: - 2 Gb or higher recommended
- Python 3.8 or higher recommended

How to use it?

INSTALLATION: - all the modules as mentioned in readme.txt should be met before running the program while the folder named “project_data” should be copied as it is in D: drive

GETTING STARTED: - The program starts with user window login and the user has to write the provided user Id and password provided by the admin after successful login specified by the admin to the users (Teachers)

CREDENTIALS: - the credentials for the admin window are as follows: -

Username: -admin

Password: - admin123456

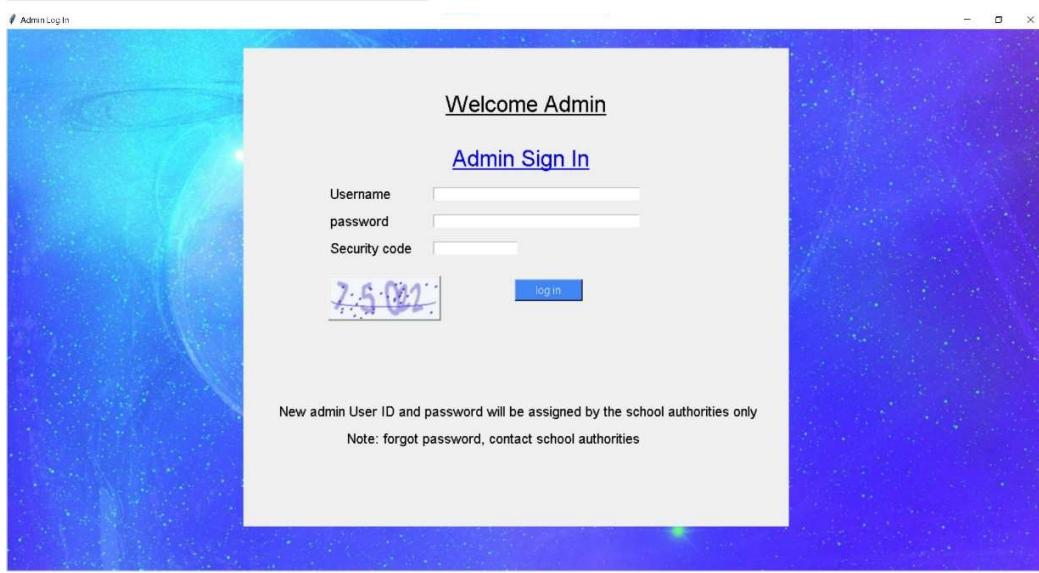
SOFTWARE DESIGN AND

INTERFACE

USER WINDOW: -



ADMIN WINDOW: -



ADMIN FUNCTIONS WINDOWS: -

After login admin, the window will appear as follows

The image shows two windows side-by-side on a Windows desktop. The left window is titled 'Database' and contains a sidebar with icons for Teacher, Student, Summary, and Log out. The right window is titled 'Teacher window' and contains a form for adding teacher information. Both windows have a sidebar with the same four icons.

Teacher window:

- Name :
- Gender :
- Father Name :
- Date Of Birth :
- Address :
- Mob No. :
- Aadhar UIN :
- PAN No. :
- Teaching Subject :
- Class Incharge :
- Date Of Joining :
-
- Username :
- Password :

St. Anne's School, Jodhpur
Where The Mind Is Without Fear

Database


Teacher


Student


Summary



Teacher window

Name :	<input type="text"/>																																																	
Gender :	<input type="button" value="Select Gender"/>																																																	
Father Name :	<input type="text"/>																																																	
Date Of Birth :	<input type="button" value="Select date"/> February 2000 <table border="1" style="margin-left: 10px; border-collapse: collapse; text-align: center;"> <tr><td>Mon</td><td>Tue</td><td>Wed</td><td>Thu</td><td>Fri</td><td>Sat</td><td>Sun</td></tr> <tr><td>5</td><td>31</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr> <tr><td>7</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr> <tr><td>8</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr> <tr><td>9</td><td>28</td><td>29</td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>10</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> </table>	Mon	Tue	Wed	Thu	Fri	Sat	Sun	5	31	1	2	3	4	5	6	7	8	9	10	11	12	7	14	15	16	17	18	19	8	21	22	23	24	25	26	9	28	29	1	2	3	4	10	6	7	8	9	10	11
Mon	Tue	Wed	Thu	Fri	Sat	Sun																																												
5	31	1	2	3	4	5																																												
6	7	8	9	10	11	12																																												
7	14	15	16	17	18	19																																												
8	21	22	23	24	25	26																																												
9	28	29	1	2	3	4																																												
10	6	7	8	9	10	11																																												
Address :	<input type="text"/>																																																	
Mob No. :	<input type="text"/>																																																	
Aadhar UIN :	<input type="text"/>																																																	
PAN No. :	<input type="text"/>																																																	
Teaching Subject :	<input type="text"/>																																																	
Class Incharge :	<input type="text"/>																																																	
Date Of Joining :	<input type="button" value="Select date"/> ok																																																	


** St. Anne's School, Jodhpur *
Where The Mind Is Without Fear **

Database


Teacher


Student


Summary



Student window

Reg No. :	<input type="text"/>
Name :	<input type="text"/>
Gender :	<input type="button" value="Select Gender"/>
Father Name :	<input type="text"/>
Date Of Birth :	<input type="button" value="Select date"/>
Address:	<input type="text"/>
Mob No. :	<input type="text"/>
Aadhar UIN:	<input type="text"/>
Date Of Joining :	<input type="button" value="Select date"/>
Class :	<input type="button" value="Select Class"/>
Section :	<input type="button" value="Select Section"/>


** St. Anne's School, Jodhpur *
Where The Mind Is Without Fear **

Database

Summary

Select table

Students

select class and section

Select Class

Select section

show

Teacher

Student

Summary

Log out

SOURCE CODE

```
# -*- coding: utf-8 -*-
"""

Created on Mon Aug  9 16:39:34 2021

@author: mridu
"""

import tkinter as tk
from PIL import Image, ImageTk
from tkinter import ttk
from captcha.image import ImageCaptcha
import random as ra
import pickle
import csv
import datetime
import os
from tkcalendar import Calendar
import datetime

queue=[]
# defining window geometry
window3=tk.Tk()
window3.geometry("1920x1080")
window3.title("User Sign In")

#_____admin window_____
def adminwindow():
    window1=tk.Toplevel()
    window1.geometry("1920x1080")
    window1.title("Database")

    #creating images
    img1=ImageTk.PhotoImage(file="teacher.png")
    img2=ImageTk.PhotoImage(file="student.png")
    img3=ImageTk.PhotoImage(file="summary.png")
    img4=ImageTk.PhotoImage(file="out.png")
    img5=ImageTk.PhotoImage(file="Logo.jpg")

    # creating image canvas
    bg= ImageTk.PhotoImage(file="OIP.png")
    canvas=tk.Canvas(window1,width=1920, height=1080)
```

```

canvas.pack(expand=True)

# add image to a canvas
canvas.create_image(0,0,image=bg, anchor="nw")

#adding canvas for signup
canvas1=tk.Canvas(window1,width=220, height=735)
canvas1.place(x=50,y=30)
canvas12=tk.Canvas(window1,width=1100, height=735)
canvas12.place(x=350,y=30)

def teacher():

    canvas12=tk.Canvas(window1,width=1100, height=735)
    canvas12.place(x=350,y=30)
    canvas3=tk.Canvas(window1,width=1080, height=100, bg="#f6cd61")
    canvas3.place(x=360,y=40)

def date():

    cal = Calendar(window1,font="Arial 14", selectmode='day',cursor="hand1", year=2000,
month=2, day=5)
    cal.place(x=650,y=310)
    canvasbtn=tk.Canvas(window1)
    canvasbtn.place(x=800, y=550)

    def newbtn():

        global date
        date=str(cal.get_date())
        lst=date.split("/")
        if int(lst[0])<10:
            month="0"+lst[0]
        else:
            month=lst[0]
        if int(lst[1])<10:
            day="0"+lst[1]
        else:
            day=lst[1]
        if int(lst[2])>21:
            year="19"+lst[2]
        else:
            year="20"+lst[2]
        date=day+"-"+month+"-"+year
        labeldate=tk.Label(window1,text=date, font="helvetica 15 bold")
        return cal.destroy(), canvasbtn.destroy(), labeldate.place(x=800,y=290), date

```

```
btn1=tk.Button(canvasbtn, text="ok", height=2, width=3, bg="sky blue", command=newbtn)
btn1.pack()
```

```
def datejoin():
    cal = Calendar(window1,font="Arial 14", selectmode='day',cursor="hand1", year=2021,
month=2, day=5)
    cal.place(x=700,y=450)
    canvasbtn=tk.Canvas(window1)
    canvasbtn.place(x=850, y=690)
    def newbtn():
        global datej
        lst=[]
        datej=str(cal.get_date())
        lst=datej.split("/")
        if int(lst[0])<10:
            month="0"+lst[0]
        else:
            month=lst[0]
        if int(lst[1])<10:
            day="0"+lst[1]
        else:
            day=lst[1]
        if int(lst[2])>21:
            year="19"+lst[2]
        else:
            year="20"+lst[2]
        datej=day+"-"+month+"-"+year
```

```
labeldate=tk.Label(window1,text=datej, font="helvetica 15 bold")
return cal.destroy(), canvasbtn.destroy(),labeldate.place(x=800,y=570),datej
```

```
btn1=tk.Button(canvasbtn, text="ok", height=2, width=3, bg="sky blue", command=newbtn)
btn1.pack()
```

```
#drop down _____
def callback(selection):
    global gender
    gender=selection
options=["Select Gender","Male","Female"]
clicked=tk.StringVar()
clicked.set("Select Gender")
drop=tk.OptionMenu(window1, clicked, *options, command=callback)
drop.place(x=650,y=210)
```

```
# labels_____
label1=tk.Label(window1,text="Teacher window",font="helvetica 25 bold
underline",bg="#f6cd61")
label1.place(x=775,y=65)

label2=tk.Label(window1,text="Name :", font="helvetica 15 bold")
label2.place(x=400,y=170)

label3=tk.Label(window1,text="Gender :", font="helvetica 15 bold")
label3.place(x=400,y=210)

label4=tk.Label(window1,text="Father Name :", font="helvetica 15 bold")
label4.place(x=400,y=250)

label5=tk.Label(window1,text="Date Of Birth :", font="helvetica 15 bold")
label5.place(x=400,y=290)

label6=tk.Label(window1,text="Address :", font="helvetica 15 bold")
label6.place(x=400,y=330)

label7=tk.Label(window1,text="Mob No. :", font="helvetica 15 bold")
label7.place(x=400,y=370)

label8=tk.Label(window1,text="Aadhar UIN :", font="helvetica 15 bold")
label8.place(x=400,y=410)

label19=tk.Label(window1,text="PAN No. :", font="helvetica 15 bold")
label19.place(x=400,y=450)

label20=tk.Label(window1,text="Teaching Subject :", font="helvetica 15 bold")
label20.place(x=400,y=490)

label21=tk.Label(window1,text="Class Incharge :", font="helvetica 15 bold")
label21.place(x=400,y=530)

label22=tk.Label(window1,text="Date Of Joining :", font="helvetica 15 bold")
label22.place(x=400,y=570)

label23=tk.Label(window1,text="Username :", font="helvetica 15 bold")
label23.place(x=1000,y=410)

label24=tk.Label(window1,text="Password :", font="helvetica 15 bold")
label24.place(x=1000,y=450)
```

```
# entries
entry1=tk.Entry(window1,width=45)
entry1.place(x=650,y=170)

entry2=tk.Entry(window1,width=45)
entry2.place(x=650,y=250)

entry4=tk.Entry(window1,width=45)
entry4.place(x=650,y=330)

entry5=tk.Entry(window1,width=45)
entry5.place(x=650,y=370)

entry6=tk.Entry(window1,width=45)
entry6.place(x=650,y=410)

entry7=tk.Entry(window1,width=45)
entry7.place(x=650,y=450)

entry8=tk.Entry(window1,width=45)
entry8.place(x=650,y=490)

entry10=tk.Entry(window1,width=45)
entry10.place(x=1150,y=410)

entry11=tk.Entry(window1,width=45)
entry11.place(x=1150,y=450)

def clasel(selection):
    global classt
    classt=selection
    options=["Select Class","I","II","III","IV","V","VI","VII","VIII","IX","X"]
    class2=tk.StringVar()
    class2.set("Select Class")
    dropc=tk.OptionMenu(window1, class2, *options, command=clasel)
    dropc.place(x=650,y=530)

def classstud2(selection1):
    global teachclassesec
    teachclassesec=selection1
    options=["Select Section","A","B"]
    section=tk.StringVar()
    section.set("Select Section")
```

```

dropsec=tk.OptionMenu(window1, section, *options, command=classstud2)
dropsec.place(x=800,y=530)

# -----Button Functions-----
def add_details():
    f=open("D:/project_data/data_teacher/teacher.csv","a")
    try:
        global date
        d=date

        global datej
        DOJ=datej

        global gender
        g=gender
        global classeselection
        classeselection=classt

        global sectionselection
        sectionselection=teachclassec
        flagnn1=0
    except:
        flagnn1=1

nm=(entry1.get()).upper()
fname=(entry2.get()).upper()

address=(entry4.get()).upper()
mobno=entry5.get()
if len(mobno)==10:
    flag1=0
else:
    flag1=1
aadhar=entry6.get()
if len(aadhar)==8 and aadhar.isdigit():
    flag2=0
else:
    flag2=1
pan=(entry7.get()).upper()
global flag3
flag3=0
if len(pan)==10:
    count=1

```

```

for i in pan:
    if count<=5 or count==10:
        if i.isalpha()==True:
            flag3=0
        else:
            flag3=1
            break
    elif count>=6 and count<=9:
        if i.isdigit()==True:
            flag3=0
        else:
            flag3=1
            break
    count+=1
else:
    flag3=1

user=(entry10.get()).lower()
if len(user)!=0:
    flag4=0
else:
    flag4=1
password=entry11.get()
if len(password)==0:
    flag5=1
else:
    flag5=0

flagmain=0
if flag1==1 or flag2==1 or flag3==1 or flag4==1 or flag5==1 :
    flagmain=1

def added():

    if flagmain==0:
        flagus=1
        lst=[nm,gender, fname,d,address,mobno,aadhar,doj,classselection,
sectionselection,user,password,pan]
        wr=csv.writer(f)

```

```

wr.writerow(lst)
f.close()
f1=open("D:/project_data/admin/user.dat","rb")
f2=open("D:/project_data/admin/user.dat","ab")
try:
    while True:
        lst=pickle.load(f1)
        if lst==[user,passwor]:
            flagus=0
except EOFError:
    f1.close()
    if flagus!=0:
        pickle.dump([user,passwor], f2)
    f2.close()

labelcommand=tk.Label(window1,text="RECORD ADDED", font="bold 15 underline",
fg="red")
labelcommand.place(x=800,y=600)
labelcommand.after(1000,lambda:teacher())
else:
    global flag3
    if flagnn1==1:
        labelcommand=tk.Label(window1,text="ENTER DETAILS", font="bold 15 underline",
fg="red")
        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())
    elif flag1==1:
        labelcommand=tk.Label(window1,text="INVALID MOBILE NO.", font="bold 15
underline", fg="red")

        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())
    elif flag2==1:

        labelcommand=tk.Label(window1,text="INVALID AADHAR(LENGTHSHOULD BE 8)",
font="bold 15 underline", fg="red")
        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())
    elif flag3==1:

        labelcommand=tk.Label(window1,text="INVALID PAN", font="bold 15 underline",
fg="red")
        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())

```

```

        elif flag4==1:

            labelcommand=tk.Label(window1,text="INVALID USERNAME", font="bold 15
underline", fg="red")
            labelcommand.place(x=800,y=600)
            labelcommand.after(1000,lambda:labelcommand.destroy())

        elif flag5==1:

            labelcommand=tk.Label(window1,text="INVALID password", font="bold 15 underline",
fg="red")
            labelcommand.place(x=800,y=600)
            labelcommand.after(1000,lambda:labelcommand.destroy())


    return added()

#buttons_____
buttonlogo=tk.Button(window1,image=img5)
buttonlogo.place(x=1150, y=170)

buttonadd=tk.Button(window1,text="Add", font="helvetica 25
bold",bg="#0057e7",command=add_details)
buttonadd.place(x=700,y=650)

def updatefun():
    os.startfile("D:/project_data/data_teacher/teacher.csv")

buttonup=tk.Button(window1,text="Update", font="helvetica 25 bold",
bg="#0057e7",command=updatefun)
buttonup.place(x=900,y=650)

buttontdob=tk.Button(window1,text="Select date", font="helvetica 10 bold",command=date)
buttontdob.place(x=650,y=290)

buttontdob=tk.Button(window1,text="Select date", font="helvetica 10 bold",command=datejoin)
buttontdob.place(x=650,y=570)

def student():
    canvas12=tk.Canvas(window1,width=1100, height=735)
    canvas12.place(x=350,y=30)
    canvas3=tk.Canvas(window1,width=1080, height=100,bg="#f6cd61")
    canvas3.place(x=360,y=40)

```

```

def dob():
    cal = Calendar(window1,font="Arial 14", selectmode='day',cursor="hand1", year=2000,
month=2, day=5)
    cal.place(x=650,y=330)
    canvasbtn=tk.Canvas(window1)
    canvasbtn.place(x=800, y=550)
    def newbtn():
        global dob
        dob=cal.get_date()
        lst=dob.split("/")
        if int(lst[0])<10:
            month="0"+lst[0]
        else:
            month=lst[0]
        if int(lst[1])<10:
            day="0"+lst[1]
        else:
            day=lst[1]
        if int(lst[2])>21:
            year="19"+lst[2]
        else:
            year="20"+lst[2]
        dob=day+"-"+month+"-"+year
        labeldate=tk.Label(window1,text=dob, font="helvetica 15 bold")
        return cal.destroy(), canvasbtn.destroy(),labeldate.place(x=800,y=330)
    btn1=tk.Button(canvasbtn, text="ok", height=2, width=3, bg="sky blue", command=newbtn)
    btn1.pack()

def dojstud():
    cal = Calendar(window1,font="Arial 14", selectmode='day',cursor="hand1", year=2021,
month=2, day=5)
    cal.place(x=650,y=450)
    canvasbtn=tk.Canvas(window1)
    canvasbtn.place(x=800, y=690)
    def newbtn():
        global dojstu
        dojstu=cal.get_date()
        lst=dojstu.split("/")
        if int(lst[0])<10:
            month="0"+lst[0]
        else:
            month=lst[0]
        if int(lst[1])<10:

```

```

        day="0"+lst[1]
    else:
        day=lst[1]
    if int(lst[2])>21:
        year="19"+lst[2]
    else:
        year="20"+lst[2]
    dojstu=day+"-"+month+"-"+year
    labldate=tk.Label(window1,text=dojstu, font="helvetica 15 bold")
    return cal.destroy(), canvasbtn.destroy(), labldate.place(x=800,y=490)
btn2=tk.Button(canvasbtn, text="ok", height=2, width=3, bg="sky blue", command=newbtn)
btn2.pack()

```

```

#drop down _____
def callback1(selection):
    global gende
    gende=selection
options=["Select Gender","Male","Female"]
clicked=tk.StringVar()
clicked.set("Select Gender")
drop=tk.OptionMenu(window1, clicked, *options, command=callback1)
drop.place(x=650,y=250)

```

```

def classstud2(selection1):
    global classsec
    classsec=selection1
options=["Select Section","A","B"]
section=tk.StringVar()
section.set("Select Section")
dropsec=tk.OptionMenu(window1, section, *options, command=classstud2)
dropsec.place(x=1150,y=450)

```

```

def classstud1(selection2):
    global classsel
    classsel=selection2
options=["Select Class","I","II","III","IV","V","VI","VII","VIII","IX","X"]
class1=tk.StringVar()
class1.set("Select Class")
drop=tk.OptionMenu(window1, class1, *options, command=classstud1)
drop.place(x=1150,y=410)

```

```
# labels_____
```

```
label1=tk.Label(window1,text="Student window",font="helvetica 25 bold  
underline",bg="#f6cd61")  
label1.place(x=775,y=65)  
  
label2=tk.Label(window1,text="Reg No.:", font="helvetica 15 bold")  
label2.place(x=400,y=170)  
  
label3=tk.Label(window1,text="Name :", font="helvetica 15 bold")  
label3.place(x=400,y=210)  
  
label4=tk.Label(window1,text="Gender :", font="helvetica 15 bold")  
label4.place(x=400,y=250)  
  
label5=tk.Label(window1,text="Father Name :", font="helvetica 15 bold")  
label5.place(x=400,y=290)  
  
label6=tk.Label(window1,text="Date Of Birth :", font="helvetica 15 bold")  
label6.place(x=400,y=330)  
  
label7=tk.Label(window1,text="Address:", font="helvetica 15 bold")  
label7.place(x=400,y=370)  
  
label8=tk.Label(window1,text="Mob No.:", font="helvetica 15 bold")  
label8.place(x=400,y=410)  
  
label19=tk.Label(window1,text="Aadhar UIN:", font="helvetica 15 bold")  
label19.place(x=400,y=450)  
  
label21=tk.Label(window1,text="Date Of Joining :", font="helvetica 15 bold")  
label21.place(x=400,y=490)  
  
label23=tk.Label(window1,text="Class :", font="helvetica 15 bold")  
label23.place(x=1000,y=410)  
  
label24=tk.Label(window1,text="Section :", font="helvetica 15 bold")  
label24.place(x=1000,y=450)  
  
# entries  
entry1=tk.Entry(window1,width=45)  
entry1.place(x=650,y=170)
```

```
entry2=tk.Entry(window1,width=45)
entry2.place(x=650,y=210)
```

```
entry3=tk.Entry(window1,width=45)
entry3.place(x=650,y=290)
```

```
entry5=tk.Entry(window1,width=45)
entry5.place(x=650,y=370)
```

```
entry6=tk.Entry(window1,width=45)
entry6.place(x=650,y=410)
```

```
entry7=tk.Entry(window1,width=45)
entry7.place(x=650,y=450)
```

```
def add_detailsstud():
    flagnn=0
    try:
        global gende
        genstud=str(gende)

        global classsel
        classin=str(classsel)

        global dob
        date=str(dob)

        global classsec
        classin1=str(classsec)

        global dojstu
        datejstud=str(dojstu)

    except:
        flagnn=1
    regno=str((entry1.get()).upper())
    if len(regno)==0:
        flagstud=1
```

```

else:
    flagstud=0
    name=str((entry2.get()).upper())

fnam=str((entry3.get()).upper())
address=str((entry5.get()).upper())
mobno=str(entry6.get())
if len(mobno)==10:
    flagstud1=0
else:
    flagstud1=1
aadharstud=entry7.get()
if len(aadharstud)==8 and aadharstud.isdigit():
    flagstud2=0
else:
    flagstud2=1

flagmain=0
if flagstud==1 or flagstud1==1 or flagstud2==1 :
    flagmain=1

def added():
    try:
        f=open("D:/project_data/data_student/stud.csv","r")
        count=1
        n=regno
        lst=csv.reader(f)

        global flagus
        flagus=0
        count=1
        try:
            for i in lst:
                if count!=1:
                    if n==int(i[0]):
                        flagus=1
                        break
                else:
                    flagus=0

```

```

        count+=1
    except IndexError:
        f.close()

    f=open("D:/project_data/data_student/stud.csv","r")
    lstteach=[]
    count=1
    lst12=csv.reader(f)
    try:
        for j in lst12:
            if count!=1:
                lstteach+=[j[0]]
            count+=1
    except IndexError:
        f.close()
    except EOFError:
        pass
    if flagmain==0 and flagus==0:
        f=open("D:/project_data/data_student/stud.csv","a")

lstfinal=[regno,name,gende,fnam,date,address,mobno,aadharstud,datejstud,classin,classin1]
wr=csv.writer(f)
wr.writerow(lstfinal)
f.close()
filename=classin+"_"+classin1+".csv"
filestring="D:\project_data\data_student"\class"+filename
flagfile=0
try:
    f=open(filestring,"r")
    f.close()
except FileNotFoundError:
    flagfile=1
    if flagfile==1:
        f=open(filestring,"w")
        f.close()
fin=open(filestring,"a")
swriter=csv.writer(fin)
lstmark=[regno,name]
swriter.writerow(lstmark)
fin.close()
labelcommand=tk.Label(window1,text="RECORD ADDED", font="bold 15 underline",
fg="red")
labelcommand.place(x=800,y=600)
labelcommand.after(1000,lambda:student())

```

```

else:
    if flagnn==1:
        labelcommand=tk.Label(window1,text="ENTER DETAILS", font="bold 15 underline",
fg="red")
        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())
    elif flagstud==1:
        labelcommand=tk.Label(window1,text="ENTER REGISTRATION NO.", font="bold 15
underline", fg="red")
        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())
    elif flagus==1:
        labelcommand=tk.Label(window1,text="ENTER VALID REGISTRATION NO.", font="bold
15 underline", fg="red")
        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())

    elif flagstud1==1:

        labelcommand=tk.Label(window1,text="INVALID MOBILE NO.", font="bold 15
underline", fg="red")
        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())
    elif flagstud2==1:
        labelcommand=tk.Label(window1,text="INVALID AADHAR", font="bold 15 underline",
fg="red")
        labelcommand.place(x=800,y=600)
        labelcommand.after(1000,lambda:labelcommand.destroy())

return added()

```

```

#buttons_____
buttonlogo=tk.Button(window1,image=img5)
buttonlogo.place(x=1150, y=170)
buttondob=tk.Button(window1,text="Select date", font="helvetica 10 bold",command=dob)
buttondob.place(x=650,y=330)

buttondob=tk.Button(window1,text="Select date", font="helvetica 10 bold",command=dojstud)
buttondob.place(x=650,y=490)

buttonadd=tk.Button(window1,text="Add", font="helvetica 25 bold",
bg="#0057e7",command=add_detailsstud)

```

```

buttonadd.place(x=700,y=650)

def updatefunstud():
    os.startfile("D:/project_data/data_student/stud.csv")

buttonup=tk.Button(window1,text="Update", font="helvetica 25 bold",
bg="#0057e7",command=updatefunstud)
buttonup.place(x=900,y=650)

def summary():
    canvas12=tk.Canvas(window1,width=1100, height=735)
    canvas12.place(x=350,y=30)
    canvas3=tk.Canvas(window1,width=1080, height=100, bg="#f6cd61")
    canvas3.place(x=360,y=40)

#drop down _____
options=["Select Table","Teachers","Students"]
clicked1=tk.StringVar()
clicked1.set("Select Table")
drop=tk.OptionMenu(window1, clicked1, *options)
drop.place(x=600,y=170)

def show2():
    filename=classselection+"_"+sectionselection+".csv"
    filestring="D:\project_data\data_student"\\"class"+filename
    flagfile=0
    try:
        f=open(filestring,"r")
        f.close()
    except FileNotFoundError:
        flagfile=1
    if flagfile==1:
        f=open(filestring,"w")
        f.close()
    os.startfile(filestring)
    return summary()

def show():
    if clicked1.get()=="Students":
        labelstud=tk.Label(window1,text="select class and section")
        def selclass(sel1):
            global classselection
            classselection=sel1

```

```

options=["Select Class","I","II","III","IV","V","VI","VII","VIII","IX","X"]
class2=tk.StringVar()
class2.set("Select Class")
drop1=tk.OptionMenu(window1, class2, *options, command=selclass)
def selsec(sel2):
    global sectionselection
    sectionselection=sel2
    options=["Select Class","I","II","III","IV","V","VI","VII","VIII","IX","X"]
    sections=tk.StringVar()
    sectionoptions=["Select section","A","B"]
    sections.set("Select section")
    drop2=tk.OptionMenu(window1, sections, *sectionoptions,command=selsec)
    buttonb=tk.Button(window1,text="show",command=show2,bg="#0057e7",fg="white")
    global buttona
    return buttona.destroy(),
labelstud.place(x=800,y=170),drop1.place(x=950,y=170),buttonb.place(x=1300,y=170),drop2.place(x=1100,y=170),
elif clicked1.get()=='Teachers':
    return os.startfile("D:/project_data/data_teacher/teacher.csv"),summary()

# labels _____
label1=tk.Label(window1,text="Summary",font="helvetica 25 bold underline",bg="#f6cd61")
label1.place(x=775,y=65)
label2=tk.Label(window1,text="Select table",font="helvetidca 15 bold")
label2.place(x=400, y=170)

# buttons
global buttona
buttona=tk.Button(window1,text="show",command=show,bg="#0057e7",fg="white")
buttona.place(x=800,y=170)

def log_out():
    return window1.destroy()
#buttons
button1=tk.Button(window1,text="Teacher",image=img1,
compound="top",width=180,height=160, command=teacher)
button1.place(x=70,y=40)

button2=tk.Button(window1,text="Student",image=img2,
compound="top",width=180,height=160, command=student)
button2.place(x=70,y=230)

```

```
button3=tk.Button(window1,text="Summary",image=img3,
compound="top",width=180,height=160, command=summary)
button3.place(x=70,y=400)
```

```
button1=tk.Button(window1,text="Log out",image=img4,
compound="top",width=180,height=160, command=log_out)
button1.place(x=70,y=590)
```

```
window1.mainloop()
```

```
# _____ GENERATING CAPTCHA _____
def randnumb():
```

```
lst=["1","2","3","4","5","6","7","8","9","A","B","C","D","E","F","G","H","I","J","K","L","M","N","O","P",
,"Q","R","S","T","U","V","W","X","Y","Z"]
l=len(lst)
s=""
for i in range(5):
    a=ra.randint(0,l-1)
    s+=lst[a]
    b=s
return b
```

```
captcha=ImageCaptcha()
rd1=randnumb()
captcha.write(rd1,"1.png")
captcha=tk.PhotoImage(file="1.png")
```

```
# creating image canvas
bg= ImageTk.PhotoImage(file="colour.png")
canvas=tk.Canvas(window3,width=1920, height=1080)
canvas.pack(expand=True)
```

```
# add image to a canvas
canvas.create_image(0,0,image=bg, anchor="nw")
```

```
#adding canvas for signup
```

```

canvas1=tk.Canvas(window3,width=800, height=700)
canvas1.place(x=350,y=60)

# adding labels to signup window
label=tk.Label(window3,text="Welcome user", font=("bold 25 underline"), fg="black",)
label.place(x=645,y=90)

label1=tk.Label(window3,text="User Sign In", font=("bold 25 underline"), fg="blue",)
label1.place(x=655,y=170)

label2=tk.Label(window3,text="Username", font=("bold",15), fg="black",)
label2.place(x=475,y=230)

label3=tk.Label(window3,text="password", font=("bold",15), fg="black",)
label3.place(x=475,y=270)

label4=tk.Label(window3,text="Security code", font=("bold",15), fg="black",)
label4.place(x=475,y=310)

label5=tk.Label(window3,text="admin login", font=("bold",15), fg="black",)
label5.place(x=475,y=500)

label6=tk.Label(window3,text="New User ID and password will be assigned by the admin only",
font=("bold",15), fg="black",)
label6.place(x=475,y=600)

label7=tk.Label(window3,text="Note: forgot password, contact admin", font=("bold",15), fg="black",)
label7.place(x=575,y=640)

#entry logs
entry=tk.Entry(window3, width=50)
entry.place(x=630,y=235)

entry1=tk.Entry(window3, width=50)
entry1.place(x=630,y=275)

entry2=tk.Entry(window3, width=20)
entry2.place(x=630,y=315)

# _____ log function _____
def logbook(entry1,entry2):

```

```

def openfile(stringfile):
    flagfile=0
    try:
        f=open(stringfile,"r")
        f.close()
    except FileNotFoundError:
        flagfile=1
    if flagfile==1:
        f=open(stringfile,"w")
        f.close()
    os.startfile(stringfile)

dict1={}
fin =open("D:\project_data\data_teacher/teacher.csv","r")
lst=list(csv.reader(fin))
for i in lst:
    if i[-3]==entry1 and i[-2]==entry2:
        dict1[i[0]]=(i[8],i[9])
        stringfile="D:\project_data\data_student\class"+i[8]+"_"+i[9]+".csv"
        openfile(stringfile)
        break

# _____check __ Function_____
def check():
    f=open("D:/project_data/admin/user.dat","rb")
    flag=0
    try:

        while True:
            lat1=pickle.load(f)
            st1=lat1[0]
            st2=lat1[1]
            if st1==entry.get() and st2==entry1.get():
                flag=1
    except EOFError:
        f.close()
    if flag!=0:
        if entry2.get()==rd1:
            labelcommand=tk.Label(window3,text="Welcome", font="bold 15 underline", fg="red")
            labelcommand.place(x=475,y=450)
            logbook(st1, st2)
            logbook(entry.get(), entry1.get())
            labelcommand.after(1000,lambda:labelcommand.destroy())
        else:

```

```
    labelcommand=tk.Label(window3,text="invalid CAPTCHA", font="bold 15 underline",
fg="red")
    labelcommand.place(x=475,y=450)
    labelcommand.after(1000,lambda:labelcommand.destroy())
else:
    labelcommand=tk.Label(window3,text="invalid user id or password", font="bold 15 underline",
fg="red")
    labelcommand.place(x=475,y=450)
    labelcommand.after(1000,lambda:labelcommand.destroy())
```

```
# _____ADMIN WINDOW LAYOUT_____
def admin():
    window2=tk.Toplevel()
    window2.geometry("1920x1080")
    window2.title("Admin Log In")

    # creating image canvas
    bg= ImageTk.PhotoImage(file="loginbg.png")
    canvaswin=tk.Canvas(window2,width=1920, height=1080)
    canvaswin.pack(expand=True)

    # add image to a canvas
    canvaswin.create_image(0,0,image=bg, anchor="nw")

    #adding canvas for Admin login
    canvaswin1=tk.Canvas(window2,width=800, height=700)
    canvaswin1.place(x=350,y=30)

# _____Adminwindow LABELS_____
labelwin=tk.Label(window2,text="Welcome Admin", font=("bold 25 underline"), fg="black",)
labelwin.place(x=645,y=90)

labelwin1=tk.Label(window2,text="Admin Sign In", font=("bold 25 underline"), fg="blue",)
labelwin1.place(x=655,y=170)

labelwin2=tk.Label(window2,text="Username", font=("bold",15), fg="black",)
labelwin2.place(x=475,y=230)

labelwin3=tk.Label(window2,text="password", font=("bold",15), fg="black",)
labelwin3.place(x=475,y=270)
```

```

labelwin4=tk.Label(window2,text="Security code", font=("bold",15), fg="black",)
labelwin4.place(x=475,y=310)

labelwin6=tk.Label(window2,text="New admin User ID and password will be assigned by the
school authorities only", font=("bold",15), fg="black",)
labelwin6.place(x=400,y=550)

labelwin7=tk.Label(window2,text="Note: forgot password, contact school authorities",
font=("bold",15), fg="black",)
labelwin7.place(x=500,y=590)

#enty logs
entrywin=tk.Entry(window2, width=50)
entrywin.place(x=630,y=235)

entrywin1=tk.Entry(window2, width=50)
entrywin1.place(x=630,y=275)

entrywin2=tk.Entry(window2, width=20)
entrywin2.place(x=630,y=315)

# CAPTCHA_____
captchwin=ImageCaptcha()
rd2=randnumb()
captchwin.write(rd2,"2.png")
captchwin=tk.PhotoImage(file="2.png")

def checkwin():
    f=open("D:/project_data/admin/admin.txt","r")
    st1=(f.read()).split("\t")
    t=[entrywin.get(),entrywin1.get()]

    if t==st1:
        if entrywin2.get()==rd2:
            labelcommand=tk.Label(window2,text="Welcome", font="bold 15 underline", fg="red")
            labelcommand.place(x=475,y=450)
            labelcommand.after(1000,lambda:labelcommand.destroy())
            return adminwindow()

    else:

```

```
    labelcommand=tk.Label(window2,text="invalid CAPTCHA", font="bold 15 underline",
fg="red")
    labelcommand.place(x=475,y=450)
    labelcommand.after(1000,lambda:labelcommand.destroy())
else:
    labelcommand=tk.Label(window2,text="invalid user id or password", font="bold 15
underline", fg="red")
    labelcommand.place(x=475,y=450)
    labelcommand.after(1000,lambda:labelcommand.destroy())

#buttons
buttonwin1=tk.Button(window2,height=1,width=10,text="log
in",fg="white",bg="#4285F4",font="Roboto",command=checkwin)
buttonwin1.place(x=750,y=370)

buttonwin3=tk.Button(window2,image=captchwin)
buttonwin3.place(x=475,y=365)

window2.mainloop()

#buttons
button1=tk.Button(window3,height=1,width=10,text="Sign
in",fg="white",bg="#4285F4",font="Roboto",command=check)
button1.place(x=750,y=370)

button1=tk.Button(window3,height=1,width=10,text="Log
in",fg="white",bg="#4285F4",font="Roboto",command=admin)
button1.place(x=750,y=500)

button3=tk.Button(image=captch)
button3.place(x=475,y=380)

# closing loop
window3.mainloop()
```

DATA DICTIONARY

DATABASE: - TEACHER

A	B	C	D	E	F	G	H	I	J	K	L	M
1	NAME	GENDER	FATHER NAME	DOB	ADDRESS	MOBILE	AADHAR	DOJ	CLASS SECTION	ID	PASS	PAN
2	AAKANSHA SONI	Female	DEEPAK SONI	28-05-1971	ICU2N318CGF4YU	123456789	12345678	12-04-2017 V	A	englishcore@stannes.edu	englishprimary@123	ADPG1532B
3	ABHINAV SINGH	Male	AJEET SINGH	20-04-1994	HSBRHTWR	123456789	12345678	16-05-2019 V	A	abc@stannes.edu.in	abc123	ADPG1532B
4	ASHISH JOSHI	Male	HIMANG JOSHI	12-02-1987	NRHBDHRBHRSV	3692580147	25678945	05-02-2021 X	A	mathematics@stannes.edu.in	mathrocket@123	BADPG8878G
5												
6												
7												

STUDENT: -

A	B	C	D	E	F	G	H	I	J	K	L
1	REG NO	NAME	GENDER	FATHER NAME	DOB	ADDRESS	MOB	AADHAR	DOJ	CLASS	SECTION
2	18086	MRIDUL GOYAL	Male	CHANDRA PRAKASH GOYAL	26-05-2004	TFYVTFUYFTY	9311627965	12345678	01-04-2017 I	A	
3	18540	HIMANGI SEN	Female	AMIT SEN	21-06-2005	KUYB JHLL	123456789	12345678	30-05-2018 X	A	
4											
5											

CLASS DATA

A	B	C	D	E	F	G
1	18086	MRIDUL GOYAL				
2	18540	HIMANGI SEN				
3						
4						
5						
6						
7						
8						

USER DETAILS(BINARY FILE)

user - Notepad
File Edit Format View Help
E0•4]"(@englishcore@stannes.edu"@\englishprimary@123"e.€•#]"(@abc@stannes.edu.in"@\abc123"e.€•3]"(@mathematics@stannes.edu.in"@\mathrocket@123"e.

ADMIN DETAIL STORAGE (TEXT FILE)

admin - Notepad

File Edit Format View Help

admin admin123456

LIMITATIONS AND ENHANCEMENTS

- **LIMITATIONS:**

1. The program does not contain the refresh button for captcha it only refreshes when the code is executed.
2. The program does not contain a check on birth date and date of joining.
3. The program does not contain a check of unique data entered by the user.
4. Program does not contain auto-generation for the generation of the registration number of the student.

- **Enhancements:**

1. The project contains a captcha that increases the security of the program
2. Data can be shared by copying and sending CSV files from 1 device to another.
3. Project contains CSV files which are maintained and manipulated by excel which gives the advantage to the user to make the changes as he wants.
4. Data can be updated easily with changes reflected easily
5. Summary of data can easily be generated using the software.

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Python Tkinter Tu <https://www.geeksforgeeks.org/dropdown-menus-tkinter/#:~:text=%20For%20creating%20Dropdown%20menu%20follow%20these%20steps%3A,a%20list%204%20Create%20Dropdown%20menu%20More%20torial> - GeeksforGeeks

- Tkinter calendar:

<https://pythonguides.com/create-date-time-picker-using-python-tkinter/#:~:text=%20How%20to%20Create%20Date%20Time%20Picker%20using,a%20calendar%20to%20select%20a%20date...%20More%20>

- Dropdown menu in python:

<https://www.geeksforgeeks.org/dropdown-menus-tkinter/#:~:text=%20For%20creating%20Dropdown%20menu%20follow%20these%20steps%3A,a%20list%204%20Create%20Dropdown%20menu%20More%20>

- Captcha in python:

<https://www.geeksforgeeks.org/generate-captcha-using-python/>