Flow Chart:

```
                    ┌──────────┐
                    │  Start   │
                    └────┬─────┘
                         │
                         ▼
         ┌───────────────────────────────┐
         │            Login              │
         └──┬─────────────────────────┬──┘
            │                         │
            ▼                         ▼
  ┌──────────────────┐    ┌──────────────────┐
  │ Shows relevant   │    │ Register         │
  │ information       │    │ (Depends on      │
  │ regarding job    │    │ designation)     │
  └────────┬─────────┘    └────────┬─────────┘
           │                       │
           │                       ▼
           │             ┌──────────────────┐
           │             │ Gives option to  │
           │             │ register new     │
           │             │ employee and     │
           │             │ assign           │
           │             │ designation      │
           │             └────────┬─────────┘
           │                      │
           ▼                      ▼
         ┌──────────────────────────┐
         │          Stop            │
         └──────────────────────────┘
```

Start

Login

Shows relevant information regarding job

Register (Depends on designation)

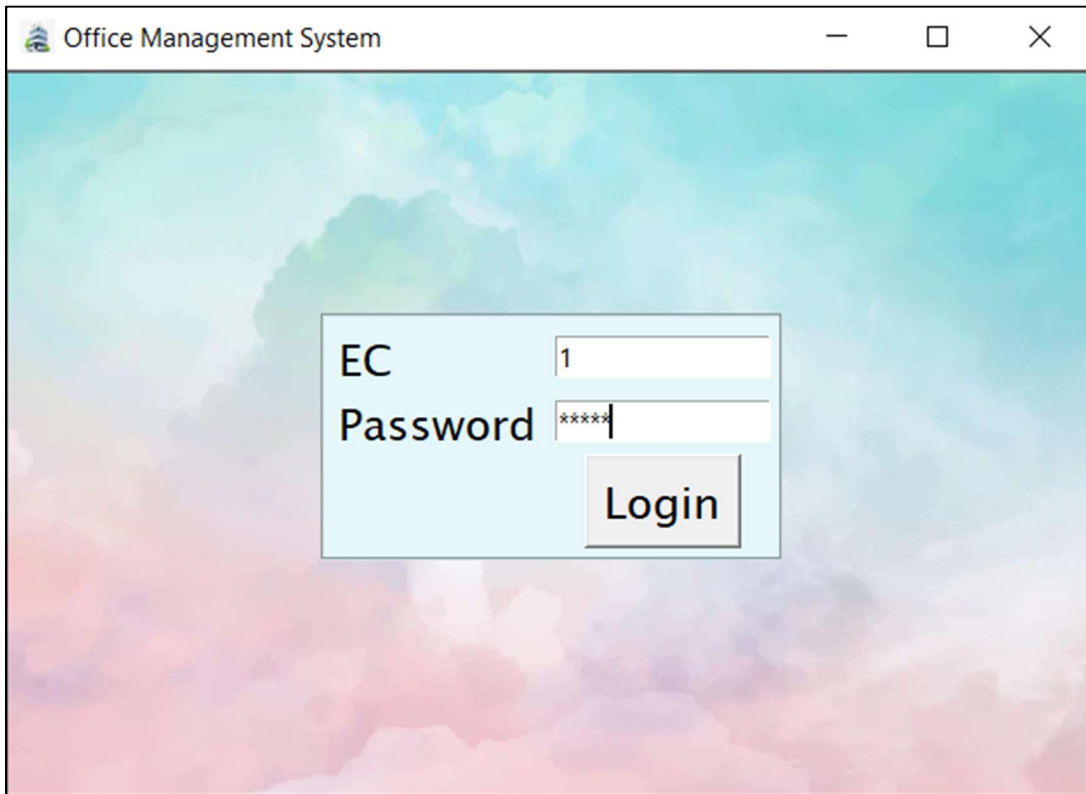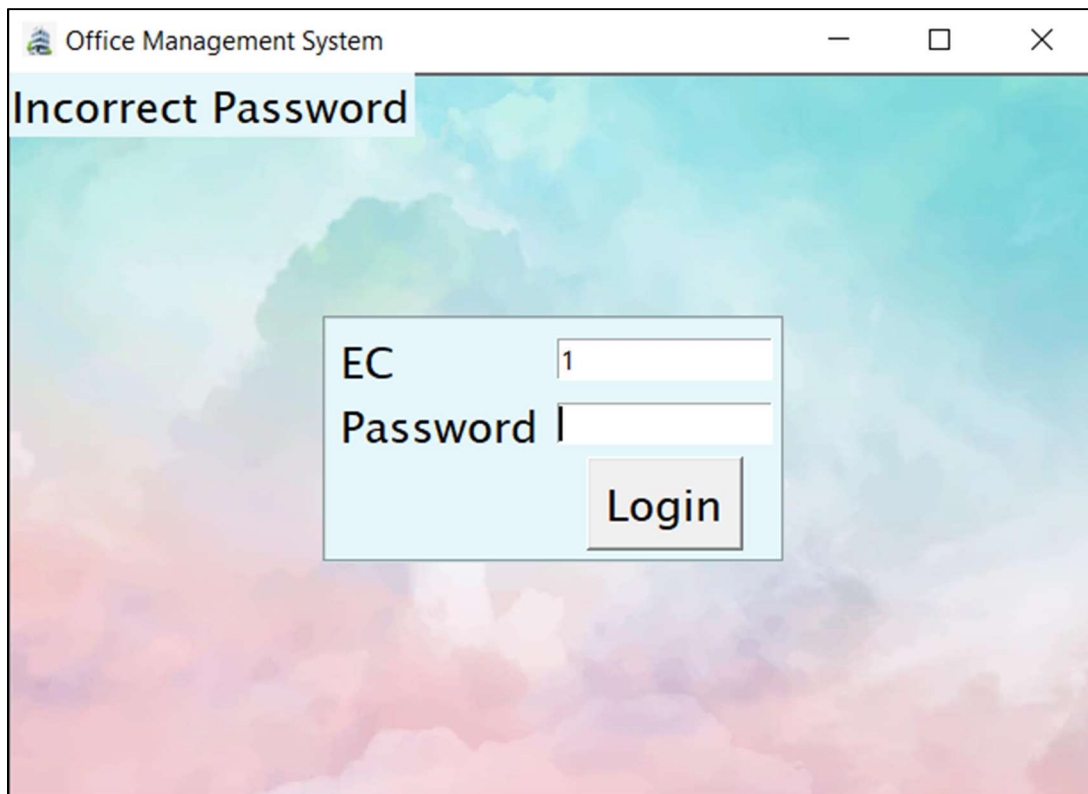Gives option to register new employee and assign designation
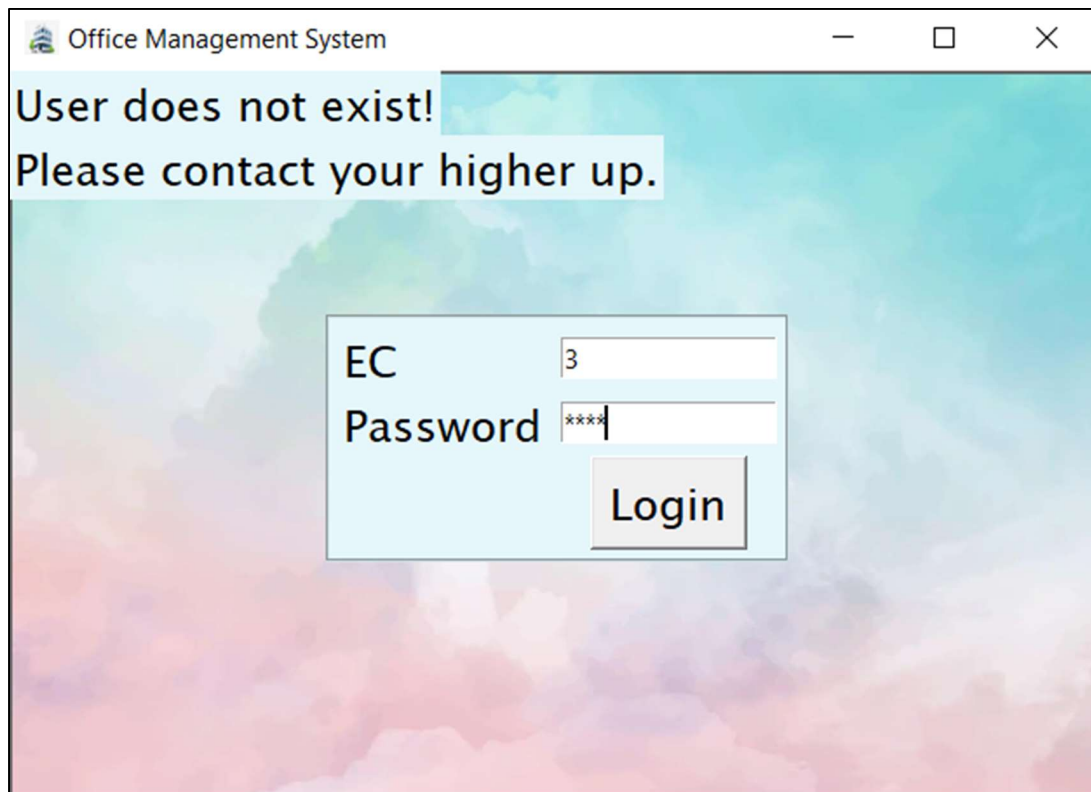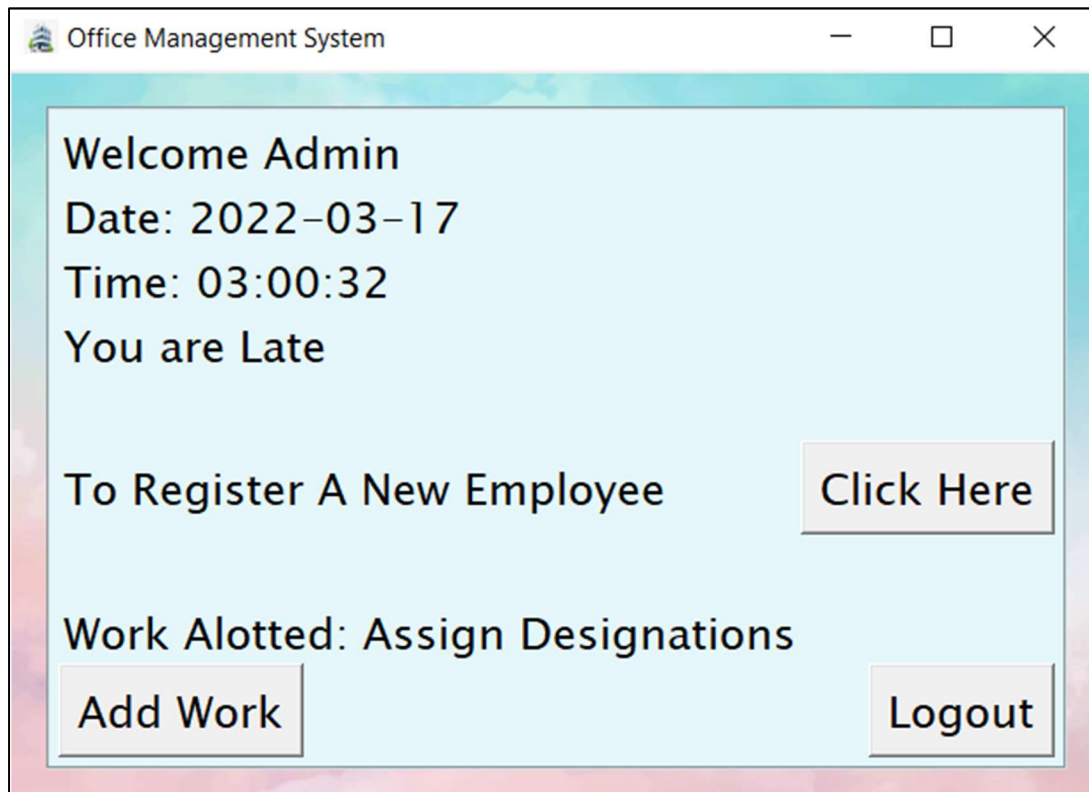
Stop

<u>Screenshots:</u>

Main Window:

Incorrect Password:

When Non-Existing User try to login:
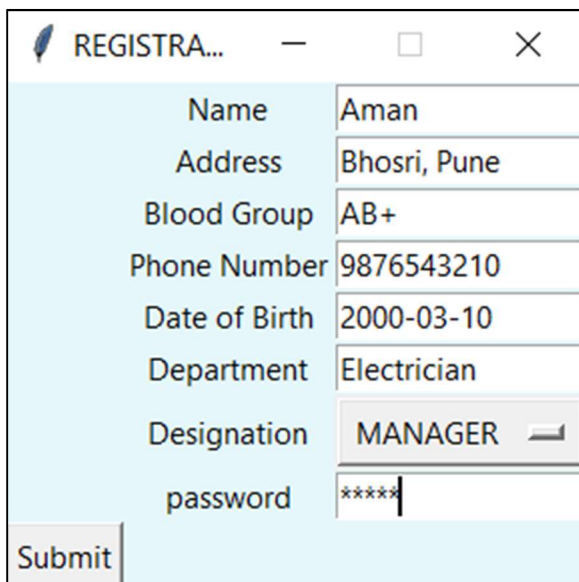
After Login (Home Page):

Office Management System — □ ✕

Welcome Admin
Date: 2022-03-17
Time: 03:00:32
You are Late

To Register A New Employee | Click Here

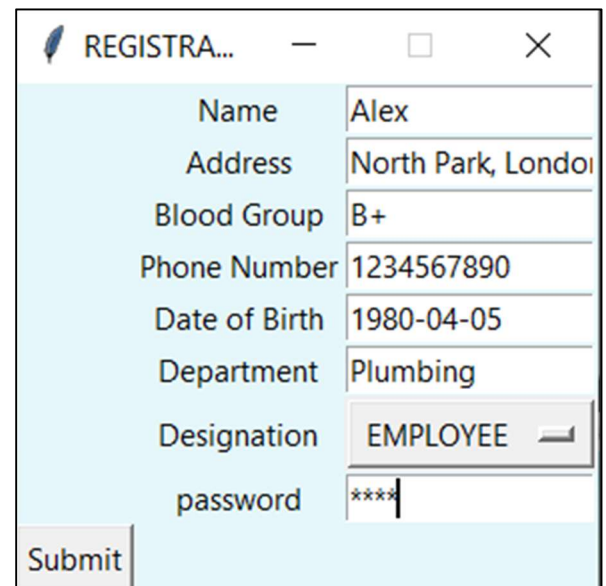Work Alotted: Assign Designations
Add Work | Logout

Registering user 1:

REGISTRA... — □ ✕

Name	Aman
Address	Bhosri, Pune
Blood Group	AB+
Phone Number	9876543210
Date of Birth	2000-03-10
Department	Electrician
Designation	MANAGER
password	*****

Submit

Registering user 2:

REGISTRA... — □ ✕

Name	Alex
Address	North Park, Londor
Blood Group	B+
Phone Number	1234567890
Date of Birth	1980-04-05
Department	Plumbing
Designation	EMPLOYEE
password	****

Submit

Assigning Work 1

Office Managem...   —   □   ✕

EMPLOYEE ▱

Work   Fix Pipes

EC   2

Send

Assigning Work 2

Office Managem...   —   □   ✕

MANAGER ▱

Work   Fix Wires

EC   3

Send

When EC and Designation Doesn't Match:

Office Management System   —   □   ✕

EMPLOYEE ▱

Work   Fix Wires

EC   10

Send

Designation and EC does not Match

Before Logout and Assigning Work:

```
MySQL 8.0 Command Line Client

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use office;
Database changed
mysql> select * from info;
```

ec	name	address	blood_grp	ph_no	dob	dept	designation	password	work	wkhr
1	Admin	nil	nil	1234567890	2000-10-10	ADMIN	BOD	admin	Assign Designations	0
2	Alex	North Park, London	B+	1234567890	1980-04-05	Plumber	EMPLOYEE	pass	NULL	0
3	Aman	Bhosri, Pune	AB+	9876543210	2000-03-10	Electrician	MANAGER	manag	NULL	0

```
3 rows in set (0.00 sec)

mysql>
```

After Admin Logout and Assign Works:


```
MySQL 8.0 Command Line Client                                                    —    □    ×

Server version: 8.0.28 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use office;
Database changed
mysql> select * from info;
+----+-------+--------------------+-----------+------------+------------+-------------+-------------+----------+--------------------+------+
| ec | name  | address            | blood_grp | ph_no      | dob        | dept        | designation | password | work               | wkhr |
+----+-------+--------------------+-----------+------------+------------+-------------+-------------+----------+--------------------+------+
|  1 | Admin | nil                | nil       | 1234567890 | 2000-10-10 | ADMIN       | BOD         | admin    | Assign Designations |  173 |
|  2 | Alex  | North Park, London | B+        | 1234567890 | 1980-04-05 | Plumber     | EMPLOYEE    | pass     | Fix Pipes          |    0 |
|  3 | Aman  | Bhosri, Pune       | AB+       | 9876543210 | 2000-03-10 | Electrician | MANAGER     | manag    | Fix Wires          |    0 |
+----+-------+--------------------+-----------+------------+------------+-------------+-------------+----------+--------------------+------+
3 rows in set (0.00 sec)

mysql>
```
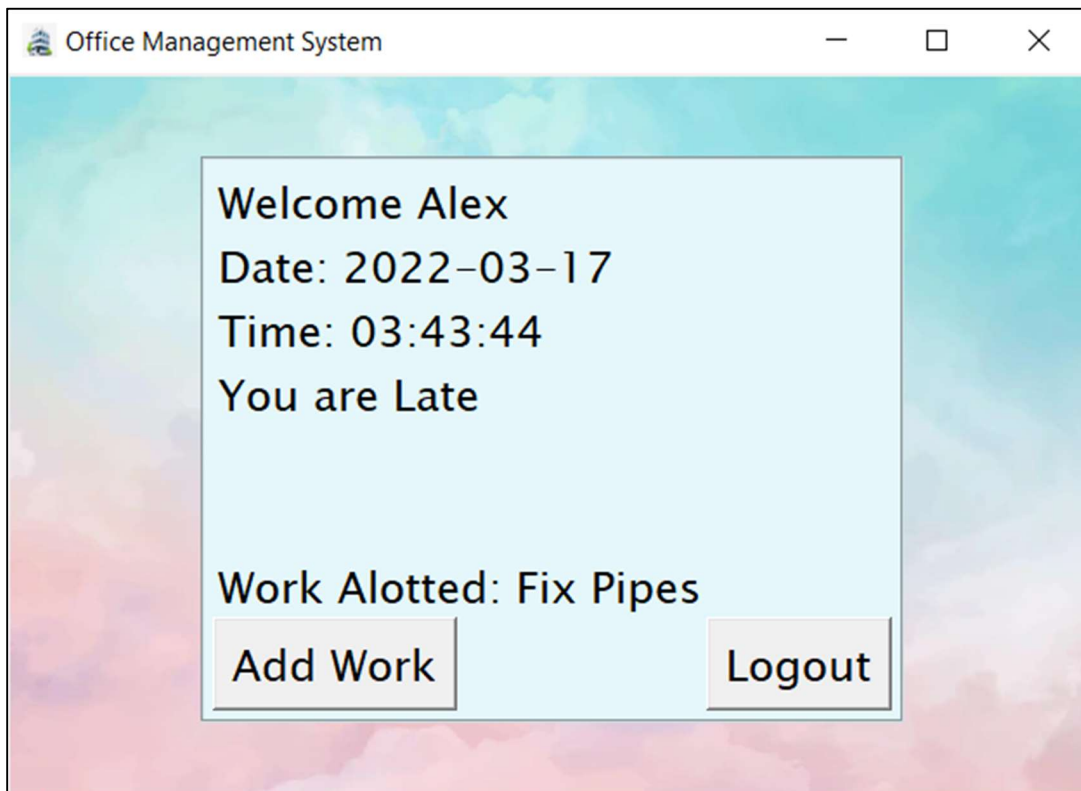
Alex Login Page:

Office Management System

Welcome Alex
Date: 2022-03-17
Time: 03:43:44
You are Late

Work Alotted: Fix Pipes

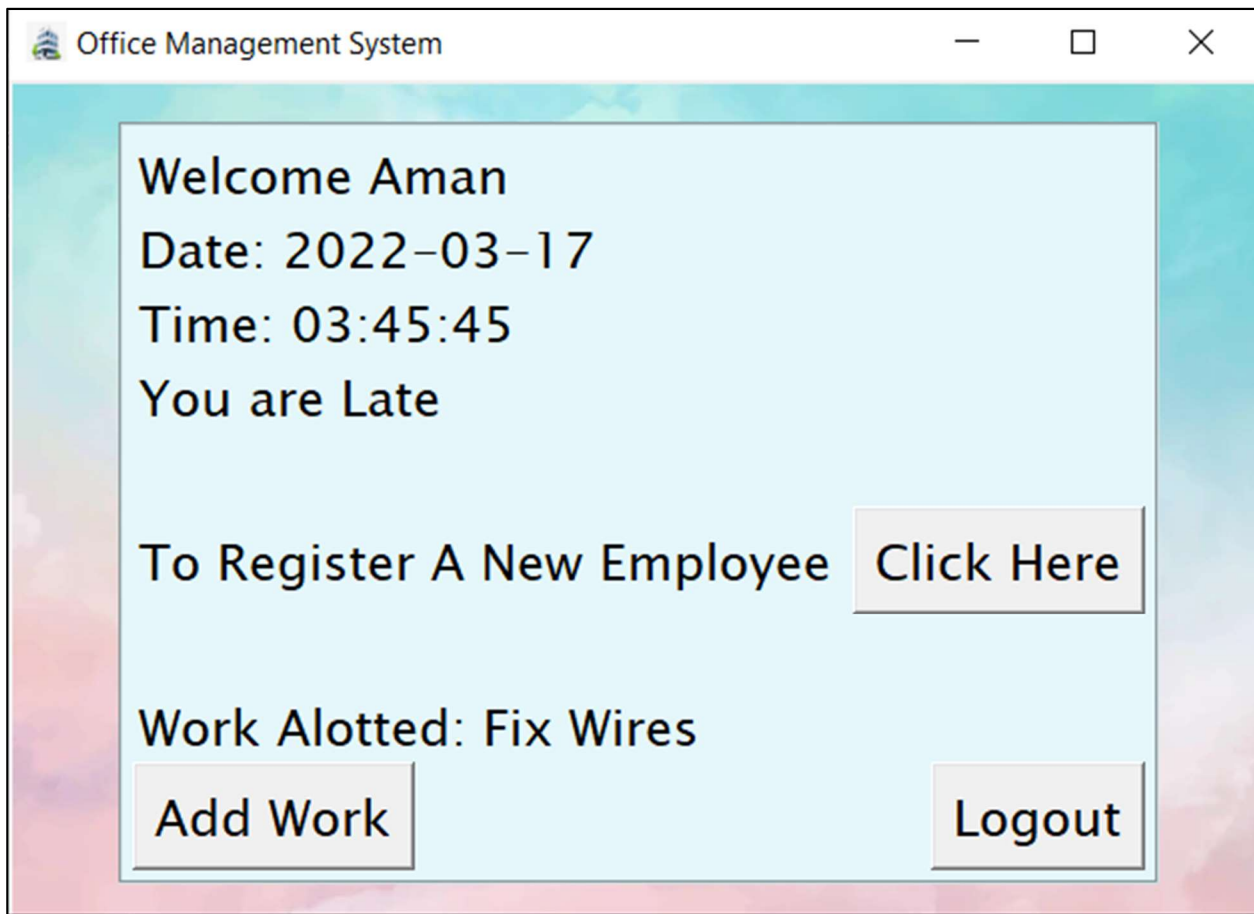Add Work   Logout

-Add work button won't work since lowest designation
-No permission to Register Employee

Aman Login Page:

Office Management System
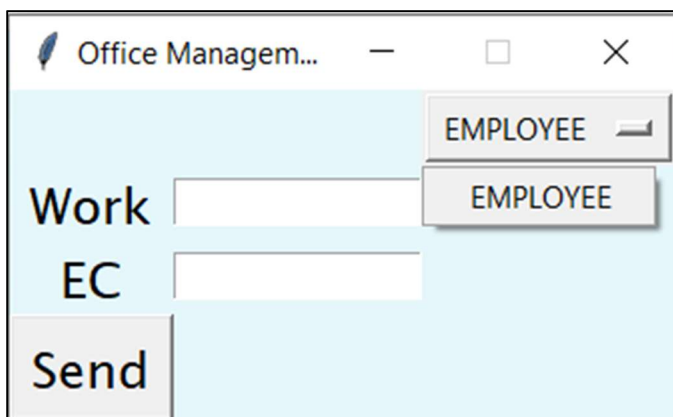
Welcome Aman
Date: 2022-03-17
Time: 03:45:45
You are Late

To Register A New Employee Click Here

Work Alotted: Fix Wires
Add Work   Logout

Can Add Work for Lower Designation Employees:

Office Managem...

EMPLOYEE
EMPLOYEE

Work
EC
Send

-Permission to Register new employee given as Aman has higher post.

Table After Assigning work and Logging out of individual accounts:

```
MySQL 8.0 Command Line Client                                                    —    □    ×
Server version: 8.0.28 MySQL Community Server - GPL

Copyright (c) 2000, 2022, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use office;
Database changed
mysql> select * from info;
+----+-------+---------------------+-----------+------------+------------+-------------+-------------+----------+--------------------+------+
| ec | name  | address             | blood_grp | ph_no      | dob        | dept        | designation | password | work               | wkhr |
+----+-------+---------------------+-----------+------------+------------+-------------+-------------+----------+--------------------+------+
|  1 | Admin | nil                 | nil       | 1234567890 | 2000-10-10 | ADMIN       | BOD         | admin    | Assign Designations | 173  |
|  2 | Alex  | North Park, London  | B+        | 1234567890 | 1980-04-05 | Plumber     | EMPLOYEE    | pass     | Fix Pipes          | 111  |
|  3 | Aman  | Bhosri, Pune        | AB+       | 9876543210 | 2000-03-10 | Electrician | MANAGER     | manag    | Fix Wires          | 110  |
+----+-------+---------------------+-----------+------------+------------+-------------+-------------+----------+--------------------+------+
3 rows in set (0.00 sec)

mysql> _
```

Note: Workhour is currently showing time in seconds for demonstration purpose but in actual code, it is actually in hours.

Code:

```python
#Importing Libraries

import tkinter as tk
from tkinter.constants import END
import mysql.connector
from tkinter.font import Font
from tkinter import *
from datetime import *
import time

#Connection to SQL Server:

con=mysql.connector.connect(host='localhost',
password='1234',user='root',database='office',port = 3307)

#Cursor Name is cur

cur=con.cursor()

#Declarations:
l3 = 0
l=0
entry=[]
log = []
emp=[]
wkl=[]
qwe=[]


Date = date.today()
Date = str(Date)
Time = datetime.now()
hour = int(Time.hour)

#Making The New Window

gui = tk.Tk()
gui.geometry("626x417")
gui.title("Office Management System")

#Insert The Icon Image

gui.iconbitmap(r'C:\Users\Lenovo\Desktop\New folder\logo.ico')

#Adding Background Image

bg=PhotoImage(file=r"C:\Users\Lenovo\Desktop\New folder\bg.png")

#Creating Font Preset
fnt = Font(family = "Lucida Sans Unicode", size = 15)

#Canvas Creation To Contain Frame

canvas=tk.Canvas(gui,width=626,height=417)
canvas.place(x = 0, y = 0, anchor = NW)
canvas.create_image(0,0,image=bg,anchor=NW)

#Frame Creation For Content
```

```python
frame = LabelFrame(gui,padx=5,pady=5)
frame.place(relx = 0.5, rely = 0.5, anchor = CENTER)
frame = LabelFrame(canvas,padx=5,pady=5,bg='#e5f7fb')
frame.place(relx = 0.5, rely = 0.5, anchor = CENTER)


#Functions

def tablecreation():
    cur.execute('create table if not exists info(ec int  primary key auto_increment,
name varchar(45), address varchar(200), blood_grp varchar(8),ph_no varchar(10), dob
date, dept varchar(15), designation varchar(15), password varchar(30), work
varchar(200), wkhr int default 0) ;')
    cur.execute('ALTER TABLE info AUTO_INCREMENT=2')
    con.commit()


def logexe():
    global x
    x=ecno.get()
    log.append(x)

    cur.execute("select password from info where ec=%s",log)
    z=cur.fetchall()
    print(pwd.get())
    if z==[]:

        tk.Label(gui,text='User does not
exist!',font=fnt,bg='#e5f7fb').grid(column='0',row='8',sticky='w')
        tk.Label(gui,text='Please contact your higher
up.',font=fnt,bg='#e5f7fb').grid(column='0',row='9',sticky='w')
        log.clear()


    else:
        for i in z:
            for j in i:
                p=j
        if pwd.get()!=p:
            global l3
            global l
            l+=1

            if l==1:
                l3=tk.Label(gui,text='Incorrect Password',font=fnt,bg='#e5f7fb')
                l3.grid(column='1',row='3')
                log.clear()
                pwd.delete(0,END)
            else:
                log.clear()
                pwd.delete(0,END)

        elif pwd.get()==p:

            log.append(pwd.get())

            cur.execute('select name from info where ec=%s and password= %s',
(log[0],log[1]))
            data=cur.fetchall()
```

```python
                for i in data:
                        for j in i:
                                n=j
                l1.destroy()
                l2.destroy()
                ecno.destroy()
                pwd.destroy()
                bt1.destroy()
                if l>=1:

                        l3.destroy()
                        tk.Label(frame,text='Welcome
'+n,font=fnt,bg='#e5f7fb').grid(column='0',row='0',sticky='w')
                        postlogin()

                else:
                        tk.Label(frame,text='Welcome
'+n,font=fnt,bg='#e5f7fb').grid(column='0',row='0',sticky='w')
                        postlogin()


def postlogin():

    if dgn()!='EMPLOYEE':
        tk.Label(frame,text='To Register A New Employee
',font=fnt,bg='#e5f7fb').grid(column='0',row='6',sticky='w')

 tk.Label(frame,text='',font=fnt,bg='#e5f7fb').grid(column='0',row='4',sticky='w')
        tk.Button(frame,text='Click
Here',command=register,font=fnt).grid(column='1',row='6',sticky='w')
    else:
        pass

    starttime = time.time()
    Tim = datetime.now().strftime("%H:%M:%S")


    tk.Label(frame, text = "Date: " + Date,font=fnt,bg='#e5f7fb').grid(column = 0, row =
1,sticky='w')
    tk.Label(frame, text = "Time: " + Tim,font=fnt,bg='#e5f7fb').grid(column = 0, row =
2,sticky='w')

    if hour<=11 and hour>7:
        tk.Label(frame, text = "You are on Time",font=fnt,bg='#e5f7fb').grid(column = 0,
row = 3,sticky='w')

    else:
        tk.Label(frame, text = "You are Late",font=fnt,bg='#e5f7fb').grid(column = 0,
row = 3,sticky='w')
    cur.execute('select work from info where ec=%s',log)

    for i in cur.fetchall():
        for j in i:
            wrk=j

    print(wrk)
    if wrk==None:
        tk.Label(frame, text="No Work Alotted",font=fnt,bg='#e5f7fb').grid(column =
0,row = 10)
    else:
```

```python
        tk.Label(frame,text='',font=fnt,bg='#e5f7fb').grid(column='0',row='8',sticky='w')
        tk.Label(frame, text="Work Alotted: "+wrk,font=fnt,bg='#e5f7fb').grid(column =
0,row = 9,sticky='w')
        #tk.Label(frame, text=wrk,font=fnt,bg='#e5f7fb').grid(column =1,row =
9,sticky='w')

    def logout():
        endtime=time.time()
        elapsed = 'Workseconds:', round (endtime-starttime, 2)
        for i in elapsed:
            z = i
        wk = int(z)#//60//60
        wkl.clear()
        wkl.append(wk)
        qwe.append(x)

        cur.execute("select wkhr from info where ec=%s",qwe)
        z = cur.fetchall()
        for i in z:
                for j in i:
                        n=j
        print(n)

        wkl.append(n)
        twh = int(wkl[0])+int(wkl[1])
        print('twh',twh)

        tk.Label(frame, text = "Work hour: "+ str(wk),bg='#e5f7fb').grid(column = 0, row
= 3)

        upd =[]

        upd.append(twh)
        upd.append(x)
        print("Update",upd)

        cur.execute("update info set wkhr=%s where ec= %s",(upd[0],upd[1]))
        con.commit()
        frame.destroy()

    lo = tk.Button(frame,text='Logout',command=
logout,font=fnt).grid(column='1',row='14',sticky='SE')
    tk.Label(frame,text='',font=fnt,bg='#e5f7fb').grid(column='0',row='4',sticky='w')
    wk = tk.Button(frame,text='Add Work',command=
work,font=fnt).grid(column='0',row='14',sticky='w')


tk.StringVar

def login():
    global ecno,pwd,l1,l2,bt1


    #labels
    l1=tk.Label(frame,text='EC',font=fnt,bg='#e5f7fb')
    l1.grid(column='0',row='0', sticky='w')
    l2=tk.Label(frame,text='Password ',font=fnt,bg='#e5f7fb')
    l2.grid(column='0',row='1', sticky='w')
```

```python
        #entries
        ecno=tk.Entry(frame,width=15)
        ecno.grid(column='1',row='0')
        pwd=tk.Entry(frame,width=15,show='*')
        pwd.grid(column='1',row='1')
        bt1=tk.Button(frame,text='Login',command=logexe,font=fnt)
        bt1.grid(column='1',row='15')

    def register():
        if dgn()!='EMPLOYEE':

            #Creation of New Window For Registration

            global gui1
            gui1=tk.Toplevel()
            gui1.resizable(False, False)
            gui1.configure(bg='#e5f7fb')
            gui1.title("REGISTRATION")

            #Global Declaration

            global a,b,c,d,e,f,g,h,clicked

            #Stores The Chosen Entry From Optionmenu

            clicked = tk.StringVar()


            #Labels
            tk.Label(gui1,text='Name',bg='#e5f7fb').grid(column='8',row='0')
            tk.Label(gui1,text='Address',bg='#e5f7fb').grid(column='8',row='1')
            tk.Label(gui1,text='Blood Group',bg='#e5f7fb').grid(column='8',row='2')
            tk.Label(gui1,text='Phone Number',bg='#e5f7fb').grid(column='8',row='3')
            tk.Label(gui1,text='Date of Birth',bg='#e5f7fb').grid(column='8',row='4')
            tk.Label(gui1,text='Department',bg='#e5f7fb').grid(column='8',row='5')
            tk.Label(gui1,text='Designation',bg='#e5f7fb').grid(column='8',row='6')
            tk.Label(gui1,text='password',bg='#e5f7fb').grid(column='8',row='7')


            #Entries
            a=tk.Entry(gui1,width=15)
            a.grid(column='9',row='0')
            b=tk.Entry(gui1,width=15)
            b.grid(column='9',row='1')
            c=tk.Entry(gui1,width=15)
            c.grid(column='9',row='2')
            d=tk.Entry(gui1,width=15)
            d.grid(column='9',row='3')
            e=tk.Entry(gui1,width=15)
            e.grid(column='9',row='4')
            f=tk.Entry(gui1,width=15)
            f.grid(column='9',row='5')
            h=tk.Entry(gui1,width=15,show='*')
            h.grid(column='9',row='7')

            clicked.set( "EMPLOYEE" )
            if dgn()=='BOD':
                g = tk.OptionMenu( gui1 ,clicked,'CEO','DIRECTOR','MANAGER','EMPLOYEE')
                g.grid(column='9',row='6')
```

```python
        elif dgn()=='CEO':
            g = tk.OptionMenu( gui1 ,clicked,'DIRECTOR','MANAGER','EMPLOYEE')
            g.grid(column='9',row='6')
        elif dgn()=='DIRECTOR':
            g = tk.OptionMenu( gui1 ,clicked,'MANAGER','EMPLOYEE')
            g.grid(column='9',row='6')
        elif dgn()=='MANAGER':
            g = tk.OptionMenu( gui1 ,clicked,'EMPLOYEE')
            g.grid(column='9',row='6')

        bt=tk.Button(gui1,text='Submit',command=submit).grid(column='0',row='8')


#Inserts The New Employee Data

def submit():
    cur.execute("INSERT INTO
info(name,address,blood_grp,ph_no,dob,dept,designation,password) VALUES (%s, %s, %s, %s,
%s, %s, %s, %s)",
(a.get(),b.get(),c.get(),d.get(),e.get(),f.get(),clicked.get(),h.get()))
    gui1.destroy()
    con.commit()


#Fetches The Designation of Given EC

def dgn():
    log.clear()
    log.append(x)

    cur.execute('select designation from info where ec=%s',log)
    des=cur.fetchall()
    for i in des:
        for j in i:
            return j


#Assigning Work to Juniors Only*

def work():


    #Global Assignment

    global gui2,k,h,i,g,m,clicked1,l


    #Creation of New Window for Work Assignment

    gui2=tk.Toplevel()
    gui2.configure(bg='#e5f7fb')
    gui2.resizable(False, False)


    clicked1 = tk.StringVar()
    clicked1.set("EMPLOYEE")
    if dgn()=='BOD':
        g = tk.OptionMenu( gui2 ,clicked1,'CEO','DIRECTOR','MANAGER','EMPLOYEE')
        g.grid(column='2',row='0')
    elif dgn()=='CEO':
```

```python
        g = tk.OptionMenu( gui2 ,clicked1,'DIRECTOR','MANAGER','EMPLOYEE')
        g.grid(column='2',row='0')
    elif dgn()=='DIRECTOR':
        g = tk.OptionMenu( gui2 ,clicked1,'MANAGER','EMPLOYEE')
        g.grid(column='2',row='0')
    elif dgn()=='MANAGER':
        g = tk.OptionMenu(gui2 ,clicked1,'EMPLOYEE')
        g.grid(column='2',row='0')


    l = tk.Label(gui2,text='EC',font=fnt,bg='#e5f7fb')
    l.grid(column='0',row='16')
    m = tk.Entry(gui2,width=15)
    m.grid(column='1',row='16')
    k = tk.Label(gui2,text='Work',font=fnt,bg='#e5f7fb')
    k.grid(column='0',row='15')
    h = tk.Entry(gui2,width='15')
    h.grid(column='1',row='15')
    i = tk.Button(gui2,text='Send',command=destwork,font=fnt)
    i.grid(column='0',row='17')


#Updating The Appointed Working The Database

def destwork():
    if upwork() == True:
        cur.execute("update info set Work=%s where ec= %s",(wku[1],m.get()))

        gui2.destroy()
        con.commit()

    else:
        l.destroy()


#Checks if The Given EC Matches The Claimed Designation

def upwork():
    global wku
    k=''
    wrkec=[]
    wku=[]
    wku.append(clicked1.get())
    wku.append(h.get())
    wrkec.append(m.get())

    cur.execute("select designation from info where ec= %s",wrkec)
    tbldes=cur.fetchall()
    for i in tbldes:
        for j in i:
            k=j

    if k==clicked1.get():
        return True

    else:
        tk.Label(gui2,text='Designation and EC does not
Match',font=fnt,bg='#e5f7fb').grid(column='0',row='18')
        print('Wrong Designation',font=fnt)
        return False
```

```python
#Main code
tablecreation()
login()
gui.mainloop()
con.commit()
```