GUI:::::

client_file_gui.py

```
#! /usr/bin/env python
# -*- coding: utf-8 -*-
import webbrowser
import os
import time
import list_extractor as liex
from collections import Counter
import d_netflix_gui
from tkinter import *
import tkinter.ttk
from PIL import ImageTk, Image
import tkinter.messagebox

def on_entry_click1(event):
    """function that gets called whenever entry is clicked"""
    if e1.get() == 'Username...':
        e1.delete(0, "end") # delete all the text in the entry
        e1.insert(0, '') #Insert blank for user input
        e1.config(fg = 'black')
def on_focusout1(event):
    if e1.get() == '':
         e1.insert(0, 'Username...')
         e1.config(fg = 'grey')
def on_entry_click2(event):
    """function that gets called whenever entry is clicked"""
    if e2.get() == 'Password...':
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        e2.delete(0, "end") # delete all the text in the entry
        e2.insert(0, '') #Insert blank for user input
        e2.config(fg = 'black')
def on_focusout2(event):
    if e2.get() == '':
        e2.insert(0, 'Password...')
        e2.config(fg = 'grey')



def choice():


    def stats(self):


        def thorough(self):
            global client_id
            global client_pass
            def seen(self):
                root4.destroy()
            root4=Tk()
            l1=Label(root4, text="Client id: "+client_id+"\t\t"+"Client Password:
"+client_pass+'\t\t'+"DateTime: "+time.ctime(), fg="blue")
            l1.grid(row=0, column=0, padx=10, pady=10)
            f = open("clients/"+client_id+'_'+client_pass+'.txt', "r")
            ff = f.readlines()
            f.close()
            l2=Label(root4, text="Total "+str(len(ff))+" films have been watched so far.", fg="green yellow")
            l2.grid(row=1, column=0, padx=10, pady=10)
            text = [x.split('\t') for x in ff]
            frequent = [x[1].replace('\n', '') for x in text]
```

```
    counter = Counter(frequent).most_common(3)
    l3=Label(root4, text=client_id+" favourate films:", fg="gold")
    l3.grid(row=2, column=0)
    count3=3
    for x in counter:
        l4=Label(root4, text=x[0])
        l4.grid(row=count3, column=0)
        count3+=1
    b1=Button(root4, text="CLOSE", fg="red", bg="black")
    b1.grid(row=count3, column=0)
    b1.bind("<Button-1>", seen)
    root4.bind("<Return>", seen)


def frequency(self):
    def seen(self):
        root3.destroy()

    root3=Tk()
    global client_id
    global client_pass
    file = open("clients/"+client_id+'_'+client_pass+'.txt', "r")
    file_text = file.readlines()
    file.close()
    text = [x.split('\t') for x in file_text]
    frequent = [x[1].replace('\n', '') for x in text]
    l1=Label(root3, text="Frequency\t Film:::")
    l1.grid(row=0, column=0)
    count2=1
```

```
        for x in Counter(frequent):
            l2=Label(root3, text=str(Counter(frequent)[x])+'\t\t'+x, fg="brown")
            l2.grid(row=count2, column=0)
            count2+=1
        b1=Button(root3, text="CLOSE", fg="red", bg="black")
        b1.bind("<Button-1>", seen)
        b1.grid(row=count2, column=0, columnspan=2)
        root3.bind("<Return>", seen)

    root2=Tk()
    root2.title("^_^FILM STATS^_^")
    root2.geometry("400x60")
    b1=Button(root2, text="WATCH FREQUENCY", fg="green", bg="CadetBlue1")
    b1.pack(fill=BOTH)
    b1.bind("<Button-1>", frequency)
    b2=Button(root2, text="THOROUGH STATS", fg="green", bg="CadetBlue1")
    b2.pack(fill=BOTH)
    b2.bind("<Button-1>", thorough)


def history(self):
    global client_id
    global client_pass
    def seen(self):
        root2.destroy()
    file = open("clients/"+client_id+'_'+client_pass+'.txt', "r")
    file_text = file.readlines()
    file.close()
    file_text.reverse()
```

```
    root2=Tk()
    root2.title("HISTORY")
    l1=Label(root2, text="DateTime                \tFilm:::")
    l1.grid(row=0, column=0)
    count=1
    for line in file_text:
        l2=Label(root2, text=line, fg="brown")
        l2.grid(row=count, column=0)
        count+=1
    b1 = Button(root2, text="CLOSE", fg="red", bg="black", relief="groove")
    b1.grid(row=count, column=0, columnspan=2)
    b1.bind("<Button-1>", seen)
    root2.bind("<Return>", seen)

def watch(self):

    def see(self):
        global client_id
        global client_pass
        title=e1.get()
        root2.geometry("450x250")
        file = open('dsap_92det.txt', "r")
        file_text = file.readlines()
        file.close()
        file_r_text = liex.cleaner(file_text)
        for line in file_r_text:
            if line[1]==title:
                file = open("clients/"+client_id+'_'+client_pass+'.txt', "a+")
                file.write(time.ctime()+'\t '+title+'\n')
```

```
            collect = open("collective.txt", "a+")
            collect.write(time.ctime()+'\t '+title+'\n')
            collect.close()
            file.close()
            webbrowser.open(line[0])
            root2.destroy()
            break
        else:
            tkinter.messagebox.showinfo("Film Not Present", title+" is not present")
            root2.destroy()
            watch(self)

    root2 = Tk()
    root.title("FILM TIME")
    l1 = Label(root2, text="TITLE", padx=10, pady=10)
    l1.grid(row=0, column=0)
    e1 = Entry(root2, width=20)
    e1.grid(row=0, column=1, columnspan=2)
    e1.focus_set()
    b1 = Button(root2, text="Lit", fg="red", bd=1, padx=10, pady=10)
    b1.grid(row=1, column=0, rowspan=2, columnspan=2)
    b1.bind("<Button-1>", see)
    root2.bind("<Return>", see)



root=Tk()
root.title("CLIENT MAIN-MENU")
```

```
    def seen(self):
        root.destroy()
        d_netflix_gui.greet()


    img = ImageTk.PhotoImage(Image.open("watch1.png"))
    #b1 = Button(root, text="WATCH", bg="dark violet", fg="snow", cursor="mouse", relief="raised",
command=watch)
    b1 = Button(root, image=img, cursor="mouse", relief="raised", padx=10, pady=20)
    b1.bind("<Button-1>", watch)
    b1.image=img
    b1.grid(row=0, column=0)
    #b2 = Button(root, text="HISTORY", bg="dark violet", fg="snow", cursor="mouse", relief="raised")
    img = ImageTk.PhotoImage(Image.open("history1.png"))
    b2 = Button(root, image=img, cursor="mouse", relief="raised", padx=10, pady=20)
    b2.bind("<Button-1>", history)
    b2.image=img
    b2.grid(row=1, column=0)
    #b3 = Button(root, text="STATS", bg="dark violet", fg="snow", cursor="mouse", relief="raised")
    img = ImageTk.PhotoImage(Image.open("stats1.png"))
    b3 = Button(root, image=img, cursor="mouse", relief="raised", padx=10, pady=20)
    b3.bind("<Button-1>", stats)
    b3.image=img
    b3.grid(row=2, column=0)
    img = ImageTk.PhotoImage(Image.open("exit1.png"))
    #b4 = Button(root, text="EXIT CLIENT", bg="dark violet", fg="snow", cursor="mouse", relief="raised",
command=turn_back)
    b4 = Button(root, image=img, cursor="mouse", relief="raised", padx=10, pady=20)
    b4.bind("<Button-1>", seen)
    b4.image=img
```

```
    b4.grid(row=3, column=0)



def login():
    root = Tk()
    root.title("Client Login")

    l1 = Label(root, text="NAME", fg="goldenrod", font ="Purisa")
    l1.grid(row=0, stick=W)
    l2 = Label(root, text="PASS", fg="goldenrod", font ="Purisa")
    l2.grid(row=1, stick=W, columnspan=1)
    global e1
    global e2
    e1 = Entry(root)
    e1.insert(0, 'Username...')
    e1.bind('<FocusIn>', on_entry_click1)
    e1.bind('<FocusOut>', on_focusout1)
    e1.config(fg = 'grey')
    e1.grid(row=0, column=1)
    e1.focus_set()

    e2 = Entry(root)
    e2.insert(0, 'Password...')
    e2.bind('<FocusIn>', on_entry_click2)
    e2.bind('<FocusOut>', on_focusout2)
    e2.config(fg = 'grey')
    e2.grid(row=1, column=1)
    e2.focus_set()
```

```
def login2(self):
    global client_id
    global client_pass
    client_id = e1.get()
    client_pass = e2.get()
    flag = 1
    for file in os.listdir("clients"):
        if file == client_id+'_'+client_pass+'.txt':
            l3=Label(root, text="Welcome "+client_id, fg="cyan", font ="Purisa")
            l3.grid(row=3)
            flag=0
            root.destroy()
            choice()

    if flag:
        l4=Label(root, text="Invalid credentials!", fg="gray1", font ="Purisa")
        l4.grid(row=3)

b1 = Button(root, text="LOGIN", bg="RoyalBlue1", fg="red", cursor="man", relief="groove")
b1.bind('<Button-1>', login2)
root.bind('<Return>', login2)
b1.grid(columnspan=2)

logo=Label(root, text="DN", font=("Symbol", 20), fg="red4", borderwidth=5, relief="groove")
logo.grid(row=0, column=2, rowspan=2, columnspan=2, ipadx=5, ipady=5, padx=13, pady=13)

root.mainloop()
```

```
def start():
    login()

if __name__ == "__main__":
    start()
```

d_netflix_gui.py

```
# -*- coding: utf-8 -*-
#! /usr/bin/env python

from tkinter import *
import server_file_gui
import client_file_gui



def sfg():
    root.destroy()
    server_file_gui.start()

def cfg():
    root.destroy()
    client_file_gui.start()

def greet():
    global root
    root = Tk()
    root.title("D-Netflix")
    l1 = Label(root, text="D-Netflix", bg="pale green", font = ("Symbol", 26))
    l1.pack(side=TOP, fill=X)
```

```
    l2 = Label(root, text="An application of Stack and Queue.", bg="aquamarine", font = ("Purisa", 16))
    l2.pack(side=BOTTOM, fill=X)

    b1 = Button(root, text="SERVER", bg="RoyalBlue1", fg="red", cursor="star", command=sfg)
    b1.pack(side=LEFT, fill=X, expand=True)
    b2 = Button(root, text="CLIENT", bg="RoyalBlue1", fg="red", cursor="star", command=cfg)
    b2.pack(side=RIGHT, fill=X, expand=True)

    root.mainloop()

if __name__ == "__main__":
    greet()
```

list_extractor.py

```
#! /usr/bin/env python
# -*- coding: utf-8 -*-

"""Firstly readlines from file and store it in a list/tuple simply pass the list/tuple to the below cleaner function and it returns clean_data, which is a nested list of your data."""
# Your data should be like below only, or else modification maybe needed.
# data = ["['https://www.youtube.com/watch?v=I0TinhhUwKQ', 'kush']\n",
"['https://www.youtube.com/watch?v=I0TinhhUwKQ', 'unknown']\n"]

def cleaner(data):
    clean1 = []
    clean2 = []
    clean3 = []
    for x in data:
```

```
        clean1.append(x[1:len(x)-2])
    for x in clean1:
        clean2.append(x.split(', '))
    for x in clean2:
        clean = [x[0][1:len(x[0])-1], x[1][1:len(x[1])-1], x[2][1:len(x[2])-1]]
        clean3.append(clean)
    return clean3

if __name__ == "__main__":
    file_name = input("Give file name to be parsed, with proper format: ")
    file_open = open(file_name, "r")
    data = file_open.readlines()
    clean_data = cleaner(data)
    print(clean_data)
```

server_file_gui.py

```
#! /usr/bin/env python
# -*- coding: utf-8 -*-

from tkinter import *
import os
import datetime as dt
import tkinter.messagebox
import list_extractor as liex
import time
from collections import Counter
import d_netflix_gui
```

```
def on_entry_click1(event):
    """function that gets called whenever entry is clicked"""
    if e1.get() == 'Username...':
       e1.delete(0, "end") # delete all the text in the entry
       e1.insert(0, '') #Insert blank for user input
       e1.config(fg = 'black')
def on_focusout1(event):
    if e1.get() == '':
        e1.insert(0, 'Username...')
        e1.config(fg = 'grey')
def on_entry_click2(event):
    """function that gets called whenever entry is clicked"""
    if e2.get() == 'Password...':
       e2.delete(0, "end") # delete all the text in the entry
       e2.insert(0, '') #Insert blank for user input
       e2.config(fg = 'black')
def on_focusout2(event):
    if e2.get() == '':
        e2.insert(0, 'Password...')
        e2.config(fg = 'grey')




def choice():
    root = Tk()
    root.title("SERVER MAIN-MENU")
```

```
    def turn_back():
        root.destroy()
        d_netflix_gui.greet()


    def client_stats(client_id, client_pass):
        root3=Tk()
        root3.title("CLIENT STATS")
        l9=Label(root3, text="Client id: "+client_id+"\t\t"+"Client Password: "+client_pass+'\t\t'+"DateTime: "+time.ctime()+"\n", fg="gray0")
        l9.grid(row=0)
        f = open("clients/"+client_id+'_'+client_pass+'.txt', "r")
        ff = f.readlines()
        f.close()
        l10 = Label(root3, text="Total "+str(len(ff))+" films have been watched so far.\n"+client_id+" favourate films:\n", fg = "green2")
        l10.grid(row=1)
        text = [x.split('\t') for x in ff]
        frequent = [x[1].replace('\n', '') for x in text]
        counter = Counter(frequent).most_common(3)
        for x in counter:
            lt = Label(root3, text=x[0]+"\n", fg="blue")
            lt.grid()
        def close_all_(self):
                root3.destroy()
        bca = Button(root3, text="CLOSE", fg="red", bg="gray5")
        bca.bind('<Button-1>', close_all_)
        bca.grid()
```

```
def client_info(self):
    files = []
    for file in os.listdir("clients/"):
        if file.endswith(".txt"):
            files.append(file)
    for file in files:
        client = file.split("_")
        client_id = client[0]
        client_pass = client[1].split('.txt')[0]
        client_stats(client_id, client_pass)


def available_movies(self):
    global root5
    global root6
    global root7
    try:
        if root6:
            root6.destroy()
    except:
        try:
            if root5:
                root5.destroy()
        except:
            pass
    root7=Tk()
    root7.title("AVAILABLE MOVIES")
    file = open('dsap_92det.txt', "r")
    file_text = file.readlines()
```

```
    file.close()
    file_r_text = liex.cleaner(file_text)
    la1=Label(root7, text="Following "+str(len(file_r_text))+" movies we have -->", fg="yellow")
    la1.grid(row=0)
    count = 1
    count2 = 0
    for line in file_r_text:
        la2 = Label(root7, text=str(count)+'.)\t'+line[1]+'\t\t'+'Genre: '+line[2], anchor=W)
        count += 1
        la2.grid(row=1+count2)
        count2+=1
    root.mainloop()



def watch_frequency(self):
    global root5
    global root6
    global root7
    try:
        if root5:
            root5.destroy()
    except:
        try:
            if root7:
                root7.destroy()
        except:
            pass
    root6 = Tk()
    root6.title("WATCH FREQUENCY")
```

```
    file = open("collective.txt", "r")
    file_text = file.readlines()
    file.close()
    text = [x.split('\t') for x in file_text]
    frequent = [x[1].replace('\n', '') for x in text]
    la1 = Label(root6, text="Frequency\t Film:::\n", fg="yellow")
    la1.grid(row=0)
    count=0
    for x in Counter(frequent):
        la2 = Label(root6, text=str(Counter(frequent)[x])+'\t\t'+x, fg="blue", anchor=W)
        la2.grid(row=1+count)
        count+=1
    root6.mainloop()


def thorough_description(self):
    global root5
    global root6
    global root7
    try:
        if root6:
            root6.destroy()
    except:
        try:
            if root7:
                root7.destroy()
        except:
            pass
    root5=Tk()
    root5.title("COMPLETE DESCRIPTION")
```

```
        f = open("collective.txt", "r")
        ff = f.readlines()
        f.close()
        la1 = Label(root5, text="Total "+str(len(ff))+" films have been played so far.\n", fg="gold")
        la1.grid(row=0)
        text = [x.split('\t') for x in ff]
        frequent = [x[1].replace('\n', '') for x in text]
        counter = Counter(frequent).most_common(5)
        la2=Label(root5, text="5 Most popular films:", fg="lawn green")
        la2.grid(row=1)
        count = 0
        for x in counter:
            la3= Label(root5, text=x[0], fg="blue")
            la3.grid(row=2+count)
            count+=1

        root5.mainloop()

    def movie_stats(self):
        root4=Tk()
        bu1 = Button(root4, text="AVAILABLE MOVIES", fg="blue", bg="gold", relief="groove", width=20)
        bu2 = Button(root4, text="WATCH FREQUENCY", fg="blue", bg="gold", relief="groove", width=20)
        bu3 = Button(root4, text="COMPLETE DESCRIPTION", fg="blue", bg="gold", relief="groove",
width=20)
        bu1.bind("<Button-1>", available_movies)
        bu1.grid(row=0, column=0)
        bu2.bind("<Button-1>", watch_frequency)
        bu2.grid(row=0, column=1)
        bu3.bind("<Button-1>", thorough_description)
```

```
    bu3.grid(row=0, column=2)
    root4.mainloop()


  def requests():
    root2 = Tk()
    root2.title("STATS WINDOW")
    b7 = Button(root2, text="CLIENT STATS", fg="blue", bg="OliveDrab1", relief="groove", width=15,
cursor="sizing")
    b7.bind("<Button-1>", client_info)
    b7.grid(row=0, column=0)
    b8 = Button(root2, text="MOVIE STATS", fg="blue", bg="OliveDrab1", relief="groove", width=15,
cursor="sizing")
    b8.bind("<Button-1>", movie_stats)
    b8.grid(row=0, column=1)
    root2.mainloop()


  def remove():
    def remove_code(self):
      title = e6.get()
      answer=tkinter.messagebox.askquestion("Admin Access", "Delete "+title)
      if answer=="yes":
        database = open("dsap_92det.txt", "r")
        lines = database.readlines()
        o_lines = lines # lines is not a nested list so no trouble
        database.close()


        database = open('dsap_92det.txt', "w")
        lines = liex.cleaner(lines)
        for x in range(len(lines)):
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```
            if title!=lines[x][1]:
                database.write(str(o_lines[x]))
            else:
                tkinter.messagebox.showinfo("Deleted Successfuly", title+" is deleted successfully")
                break
        else:
            tkinter.messagebox.showinfo("Film Not Present", title+" is not present")
        database.close()
    root2.destroy()

  root2=Tk()
  root2.title("Remove a Movie")
  l7 = Label(root2, text = "Give Title of Movie to be Deleted", font="Aerial", fg="orange red")
  l7.grid(row=0)

  e6 = Entry(root2, width=50)
  e6.grid(row=1)
  e6.focus_set()

  b6 = Button(root2, text="Delete", relief="groove")
  b6.bind("<Button-1>", remove_code)
  b6.grid(row=2, columnspan=2)

  root2.bind("<Return>", remove_code)



def upload():
  def upload_code(self):
```

```
        database = open("dsap_92det.txt", "a+")
        td = dt.datetime.now()
        link = e3.get()
        title = e4.get()
        genre = e5.get()
        if link=="":
            l6 = Label(root2, text="You forgot Link!", fg="red2", font ="Purisa")
            l6.grid(row=4, column=1, columnspan=2)
        elif title=="":
            l6 = Label(root2, text="You forgot Title!", fg="red2", font ="Purisa")
            l6.grid(row=4, column=1, columnspan=2)
        elif genre=="":
            l6 = Label(root2, text="You forgot Genre!", fg="red2", font ="Purisa")
            l6.grid(row=4, column=1, columnspan=2)
        else:
            database.write(str([link, title, genre, td.year, td.month, td.day, td.hour, td.minute,
td.second])+'\n')
            database.close()
            l6 = Label(root2, text="Movie has been uploaded successfully.", fg="hot pink", font ="Purisa")
            l6.grid(row=4, column=1, columnspan=2)
            root2.destroy()



    root2=Tk()
    root2.title("UPLOAD MOVIES")
    l3 = Label(root2, text="LINK", fg="SeaGreen1", font ="Purisa")
    l3.grid(row=0, stick=W)
    l4 = Label(root2, text="TITLE", fg="SeaGreen1", font ="Purisa")
    l4.grid(row=1, stick=W)
```

```
    l5 = Label(root2, text="GENRE", fg="SeaGreen1", font ="Purisa")
    l5.grid(row=2, stick=W)

    e3 = Entry(root2, width=50)
    e3.grid(row=0, column=1, columnspan=2)
    e3.focus_set()

    e4 = Entry(root2, width=50)
    e4.grid(row=1, column=1, columnspan=2)
    e4.focus_set()

    e5 = Entry(root2, width=50)
    e5.grid(row=2, column=1, columnspan=2)
    e5.focus_set()

    b5 = Button(root2, text="UPLOAD", bg="blue2", fg="red", cursor="man", relief="raised", width=50)
    b5.bind('<Button-1>', upload_code)
    root2.bind('<Return>', upload_code)
    b5.grid(row=3, column=1)

    root.mainloop()



  b1 = Button(root, text="UPLOAD", bg="dark violet", fg="snow", cursor="mouse", relief="raised",
command=upload)
  b1.grid(row=0, column=0)
  b2 = Button(root, text="REMOVE", bg="dark violet", fg="snow", cursor="mouse", relief="raised",
command=remove)
  b2.grid(row=0, column=1)
```

```
    b3 = Button(root, text="STATS", bg="dark violet", fg="snow", cursor="mouse", relief="raised",
command=requests)
    b3.grid(row=0, column=2)
    b4 = Button(root, text="EXIT SERVER", bg="dark violet", fg="snow", cursor="mouse", relief="raised",
command=turn_back)
    b4.grid(row=0, column=3)



    root.mainloop()


def login():
    root = Tk()
    root.title("Server Login")


    l1 = Label(root, text="NAME", fg="goldenrod", font ="Purisa")
    l1.grid(row=0, stick=W)
    l2 = Label(root, text="PASS", fg="goldenrod", font ="Purisa")
    l2.grid(row=1, stick=W, columnspan=1)
    global e1
    global e2
    e1 = Entry(root)
    e1.insert(0, 'Username...')
    e1.bind('<FocusIn>', on_entry_click1)
    e1.bind('<FocusOut>', on_focusout1)
    e1.config(fg = 'grey')
    e1.grid(row=0, column=1)
    e1.focus_set()


    e2 = Entry(root)
```

```
e2.insert(0, 'Password...')
e2.bind('<FocusIn>', on_entry_click2)
e2.bind('<FocusOut>', on_focusout2)
e2.config(fg = 'grey')
e2.grid(row=1, column=1)
e2.focus_set()

def login2(self):
   server_id = e1.get()
   server_pass = e2.get()
   flag = 1
   for file in os.listdir():
      if file == server_id+'_'+server_pass+'.txt':
         l3=Label(root, text="Database access granted.", fg="cyan", font ="Purisa")
         l3.grid(row=3)
         flag=0
         root.destroy()
         choice()

   if flag:
      l4=Label(root, text="Invalid credentials!", fg="gray1", font ="Purisa")
      l4.grid(row=3)

b1 = Button(root, text="LOGIN", bg="RoyalBlue1", fg="red", cursor="man", relief="groove")
b1.bind('<Button-1>', login2)
root.bind('<Return>', login2)
b1.grid(columnspan=2)

logo=Label(root, text="DN", font=("Symbol", 20), fg="red4", borderwidth=5, relief="groove")
```

```
    logo.grid(row=0, column=2, rowspan=2, columnspan=2, ipadx=5, ipady=5, padx=13, pady=13)


    root.mainloop()

def start():
    login()



if __name__ == "__main__":
    start()

================================================================================
```