CBSE
Computer Science Project

Blockbuster:
Database Management system for movies

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Acknowledgement

I would like to express my gratitude towards my Computer Science Teacher, Mrs. Shruti Mehta for her valuable guidance, I would also like to thank our Principal Ms. Neera Pandey and the School Management for providing me the opportunity to work on this project.

I am grateful to my parents and my brother for their consistent support which made this project successful. Lastly, I would like to extend thanks to my classmates who helped me during the making of this project.

Contents

Story behind the name

Blockbuster was a business founded by David Cook in 1985 as a single home video rental shop. As the company saw growth it became a public store chain featuring video game rentals, DVD-by-mail, streaming, video on demand and cinema theater.

Poor leadership and the residual effects of the Great Recession were major factors leading to Blockbuster's decline. The competition from Netflix's mail order service and Redbox automated kiosks ultimately led to the company filing for bankruptcy in 2010.

In 2011, its remaining 1700 stores were bought by Dish Network, a satellite television provider. By 2014, the last 300 company-owned stores were closed.

Dish retained a small number of franchise agreements, enabling some privately owned franchises to remain open irrespective of the termination of the corporate support for the brand.

Following a series of further closures in 2019, only one franchise store remains open in Bend, Oregon, United States.

The Last Blockbuster, Bend, Oregon, USA

Purpose of the project

I decided to create this project so that I would be able to maintain a database for movies which allowed me to store information pertaining to the movie and let me access it easily.

Although such services are already available, creating this project also helped learn about working with user interfaces while using Tkinter to create the UI for my project.

Creating this project also helped me become more familiar with Python and its connectivity with MySQL.

Requirements

1. Hardware requirements:

Component	Minimum	Recommended
Processor	Dual-core CPU	Quad-core CPU or better
RAM	2 GB	4 GB or higher
Storage	2 GB free space	10 GB or more
Operating System	Windows 7/Linux/macOS	Latest OS version

2. Software requirements:
   Python Version 3.13
   Tkinter Version 8.6
   MySQL Command line client Version 8.0

Implementation

1. Attributes used:
   Movie Name
   Genre
   Date of Release
   IMDB ID
   Director
   Rating
   Watched it

2. Features available:
   Insert records
   Update a record using name or IMDB ID of the movie
   Delete a record using name or IMDB ID of the movie
   Check availability of a record using name or IMDB ID of the movie
   Display all the records available
   Exit the applet

3. Source code:

```
#Importing required libraries
import tkinter as tk
from tkinter import StringVar
from tkinter import messagebox
import mysql.connector as sq


#Creating the database movie_database and a table inside it called Movies
def create():
    mydb = sq.connect(host="localhost",user="root",password="root")
    mycursor = mydb.cursor()
    sql = "Create database movie_database"
    mycursor.execute(sql)
    mycursor.execute("Use movie_database")
    mydb.commit()
    mycursor.execute("Create table Movies (Movie_Name VARCHAR(500), Genre VARCHAR(100), date_of_release DATE, IMDB_id INTEGER,Director VARCHAR(500), Rating VARCHAR(500), Watched_it VARCHAR(5))")
    mydb.commit()

#Checking the existence of the database and creating it if the database does not exist
def check_database_existence():
    try:
        mydb = sq.connect(host="localhost",user="root",password="root",database="movie_database")
    except sq.Error as e:
        if e.errno == 1049:  #1049 is the MySQL error code for "Unknown database"
            create()
        else:
            print("Error: {e}")
check_database_existence()

#Re-opening the menu window whenever the close button is clicked.
def recreate_root():
    global root
    root=tk.Tk()
    root.geometry('690x350')
```

```
    root.configure(bg='#42c8f5')
    root.title('Menu')
    lab3=tk.Label(root, text="WELCOME TO BLOCKBUSTER: A Movie Database",font=('Cascadia Mono SemiLight',16,'bold'),bg='#42c8f5')
    lab6=tk.Label(root, text="Made By: Atharava Srivastava",font=('Cascadia Mono SemiLight',16,'bold'),bg='#42c8f5')
    lab3.pack()
    lab6.pack()

    lin1=tk.Label(root,text="1.Insert new records",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin2=tk.Label(root,text="2.Update a record",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin3=tk.Label(root,text="3.Delete a record",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin4=tk.Label(root,text="4.Search a record",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin5=tk.Label(root,text="5.Display the data",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin6=tk.Label(root,text="6.Quit",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')

    lin1.place(x=10,y=80)
    lin2.place(x=10,y=110)
    lin3.place(x=10,y=140)
    lin4.place(x=10,y=170)
    lin5.place(x=10,y=200)
    lin6.place(x=10,y=230)

    ch=StringVar()

    lab1=tk.Label(root,text="Which function do you want to apply?:",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lab1.place(x=10,y=260)

    en1=tk.Entry(root, textvariable=ch, font=('Cascadia Mono SemiLight',14))
    en1.place(x=420,y=263)

    #Function to ask for confirmation from user if quiting
    def on_closing():
            if messagebox.askyesno(title='QUIT?',message='Are you sure you want to quit'):
                root.destroy()
            else:
```

```
                pass

    #Function to accept the choice from user of menu items
    def choicefunc(event=None):
        choice=ch.get()
        #To insert new records
        if choice=='1':
            insert()
        #To update a record
        elif choice=='2':
            update()
        #To delete a record
        elif choice=='3':
            delete()
        #To search a record
        elif choice=='4':
            search()
        #To display the data
        elif choice=='5':
            display()
        #To exit the program
        elif choice=='6':
            exit_=tk.Tk()
            exit_.geometry('500x100')
            exit_.config(bg='#42c8f5')
            exit_.title('Exit')
            label_0=tk.Label(exit_, text="Thank
  You!",font=('Cascadia Mono SemiLight',16,'bold'),bg='#42c8f5')
            label_1=tk.Label(exit_, text="Hope you have a nice
  day!",font=('Cascadia Mono SemiLight',16,'bold'),bg='#42c8f5')
            label_0.pack()
            label_1.pack()
            root.destroy()
             #Invaild input
             else:
                 lab2=tk.Label(root,text="Please Enter Valid
  Input!",font=('Cascadia Mono SemiLight',15),bg='#42c8f5')
                 lab2.place(x=170,y=300)
                 ch.set('')

         en1.bind ('<Return>',choicefunc)

         #Recreating the option window
         root.mainloop()


     #Function for inserting data
```

```
113.     def insert():
114.
115.         #Closing menu window
116.         root.destroy()
117.
118.         #Creating window to insert data
119.         insertk=tk.Tk()
120.         insertk.geometry('850x400')
121.         insertk.configure(bg='#42c8f5')
122.         insertk.title('Insert Record')
123.
124.         #Creating labels
125.         lab0=tk.Label(insertk,text='Fill out the below
    information',bg='#42c8f5',font=('Cascadia Mono
    SemiLight',18,'bold'))
126.         lab1=tk.Label(insertk,text="Name of the Movie
    :",bg='#42c8f5',font=('Cascadia Mono SemiLight',14))
127.         lab2=tk.Label(insertk,text="Genre of the
    Movie:",bg='#42c8f5',font=('Cascadia Mono SemiLight',14))
128.         lab3=tk.Label(insertk,text="Date of Releae of the
    Movie (in YYYY-MM-DD format):",bg='#42c8f5',font=('Cascadia
    Mono SemiLight',14))
129.         lab4=tk.Label(insertk,text="IMDB
    ID:",bg='#42c8f5',font=('Cascadia Mono SemiLight',14))
130.         lab5=tk.Label(insertk,text="Movie
    Director:",bg='#42c8f5',font=('Cascadia Mono SemiLight',14))
131.         lab6=tk.Label(insertk,text="IMDB
    Rating:",bg='#42c8f5',font=('Cascadia Mono SemiLight',14))
132.         lab7=tk.Label(insertk,text="Have you watched it
    yet?:",bg='#42c8f5',font=('Cascadia Mono SemiLight',14))
133.
134.         #Placing labels
135.         lab0.pack()
136.         lab1.place(x=10,y=60)
137.         lab2.place(x=10,y=100)
138.         lab3.place(x=10,y=140)
139.         lab4.place(x=10,y=180)
140.         lab5.place(x=10,y=220)
141.         lab6.place(x=10,y=260)
142.         lab7.place(x=10,y=300)
143.
144.         #Initializing variables to read the entry box data
145.         nm=StringVar()
146.         genre=StringVar()
147.         dor=StringVar()
148.         code=StringVar()
149.         dr=StringVar()
```

```
150.         rt=StringVar()
151.         seen=StringVar()
152.
153.         #Creating entry boxes
154.         en0=tk.Entry(insertk)
155.         en1=tk.Entry(insertk,textvariable=nm,font=('Cascadia
  Mono SemiLight',14))
156.         en2=tk.Entry(insertk,textvariable=genre,font=('Cascad
  ia Mono SemiLight',14))
157.         en3=tk.Entry(insertk,textvariable=dor,font=('Cascadia
  Mono SemiLight',14))
158.         en4=tk.Entry(insertk,textvariable=code,font=('Cascadi
  a Mono SemiLight',14))
159.         en5=tk.Entry(insertk,textvariable=dr,font=('Cascadia
  Mono SemiLight',14))
160.         en6=tk.Entry(insertk,textvariable=rt,font=('Cascadia
  Mono SemiLight',14))
161.         en7=tk.Entry(insertk,textvariable=seen,font=('Cascadi
  a Mono SemiLight',14))
162.
163.         #Placing entry boxes
164.         en1.place(x=225,y=62)
165.         en2.place(x=225,y=102)
166.         en3.place(x=575,y=142)
167.         en4.place(x=105,y=182)
168.         en5.place(x=180,y=222)
169.         en6.place(x=145,y=262)
170.         en7.place(x=290,y=302)
171.
172.         #Function to execute query for entering data in MySQL
  table
173.         def insertin(event=None):
174.
175.             #Getting information from entry boxes
176.             Name=nm.get()
177.             Genre=genre.get()
178.             DOR=dor.get()
179.             Movie_code=code.get()
180.             Director=dr.get()
181.             Rating=rt.get()
182.             Seen=seen.get()
183.             #Connecting to MySQL and executing the query
184.             mydb =
  sq.connect(host="localhost",user="root",password="root",databas
  e="movie_database")
185.             mycursor = mydb.cursor()
```

```
            sql = "INSERT INTO Movies (Movie_Name, Genre,
  Date_of_release, IMDB_id, Director, Rating, Watched_it) VALUES
  (%s,%s,%s,%s,%s,%s,%s)"
            val =
  (Name,Genre,DOR,Movie_code,Director,Rating,Seen)
            '''sql = "INSERT INTO Movies (Movie_Name, Genre,
  Date_of_release, IMDB_id, Director, Rating, Watched_it) VALUES
  (%s,%s,%s,%s,%s,%s,%s)"
            val =
  (Name,Genre,DOR,Movie_code,Director,Rating,Seen)'''
            mycursor.execute(sql, val)
            mydb.commit()

            #Displaying message for successful insert
            added=tk.Label(insertk,text='Record
  Inserted',font=('Cascadia Mono SemiLight',20),bg='#42c8f5')
            added.place(x=300,y=340)

            #Setting all entry boxes to blank so that new
  data can be entered
            nm.set('')
            genre.set('')
            dor.set('')
            code.set('')
            dr.set('')
            rt.set('')
            seen.set('')

        insertk.bind_all('<Return>', insertin)

        #Function to ask confirmation from user for quiting
        def on_closing():
            if messagebox.askyesno(title='QUIT?',message='Are
  you sure you want to quit'):
                insertk.destroy() #Closing this window
                recreate_root() #Re-opening root window
            else:
                pass

        insertk.protocol('WM_DELETE_WINDOW',on_closing)
        insertk.mainloop()

    #Function for updating a record
    def update(event=None):

        #Closing menu window
        root.destroy()
```

```
224.
225.         #Creating window to update a record
226.         updatetk=tk.Tk()
227.         updatetk.geometry('1000x100')
228.         updatetk.configure(bg='#42c8f5')
229.         updatetk.title('Update Record')
230.
231.         #Asking user if they want to use the movie name or
   IMDB ID to update the record
232.         #Creating labels
233.         lab0=tk.Label(updatetk,text='Update
   Record',font=('Cascadia Mono
   SemiLight',18,'bold'),bg='#42c8f5')
234.         lab1=tk.Label(updatetk,text='Enter 1 to use movie
   name or 2 to use IMDB ID to update the data:',font=('Cascadia
   Mono SemiLight',14),bg='#42c8f5')
235.
236.         #Placing labels
237.         lab0.pack()
238.         lab1.place(x=10,y=50)
239.
240.         #Initializing variable to read the entry box data
241.         val=StringVar()
242.
243.         #Creating and placing entry box
244.         en1=tk.Entry(updatetk,textvariable=val,font=('Cascadi
   a Mono SemiLight',14))
245.         en1.place(x=740,y=50)
246.
247.         #Function to ask for confirmation and close the
   window
248.         def on_closing():
249.                 if
   messagebox.askyesno(title='QUIT?',message='Are you sure you
   want to quit'):
250.                     nonlocal updatetk
251.                     updatetk.destroy() #Closing this window
252.                     recreate_root() #Re-opening root window
253.                 else:
254.                     pass
255.         updatetk.protocol('WM_DELETE_WINDOW',on_closing)
256.
257.         #Checking whether user wants to update using movie
   name or IMDB ID
258.         def updateit(event=None):
259.             char=val.get()
260.             while char!='':
```

```
                if char=='1':
                    updatewithname()
                    break
                elif char=='2':
                    updatewithid()
                    break

        #Function to update using movie name
        def updatewithname():

            #Closing choice window
            nonlocal updatetk
            updatetk.destroy()

            #Creating window to update using movie name
            nametk=tk.Tk()
            nametk.geometry('750x380')
            nametk.configure(bg='#42c8f5')
            nametk.title('Updating Record using name')

            #Creating labels
            lab0=tk.Label(nametk,text='Update
  Record',font=('Cascadia Mono
  SemiLight',18,'bold'),bg='#42c8f5')
            lab1=tk.Label(nametk,text='--> 1. Movie name
  ',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
            lab2=tk.Label(nametk,text='--> 2.
  Genre',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
            lab3=tk.Label(nametk,text='--> 3. Date of
  Release',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
            lab4=tk.Label(nametk,text='--> 4. IMDB
  Id',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
            lab5=tk.Label(nametk,text='--> 5.
  Director',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
            lab9=tk.Label(nametk,text='--> 6. IMDB
  Rating',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
            lab6=tk.Label(nametk,text="Movie name whose
  record you want to update:",font=('Cascadia Mono
  SemiLight',14),bg='#42c8f5')
            lab7=tk.Label(nametk,text="Record you want to
  update:",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
            lab8=tk.Label(nametk,text="Enter the
  change:",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')

            #Placing labels
            lab0.pack()
            lab6.place(x=10,y=50)
```

```
296.            lab1.place(x=10,y=80)
297.            lab2.place(x=10,y=110)
298.            lab3.place(x=10,y=140)
299.            lab4.place(x=10,y=170)
300.            lab5.place(x=10,y=200)
301.            lab9.place(x=10,y=230)
302.            lab7.place(x=10,y=260)
303.            lab8.place(x=10,y=290)
304.
305.            #Initialising variables to read entry box
306.            upe=StringVar()
307.            fi=StringVar()
308.            fich=StringVar()
309.
310.            #Creating entry boxes
311.            en1=tk.Entry(nametk,textvariable=upe,font=('Casca
  dia Mono SemiLight',14))
312.            en2=tk.Entry(nametk,textvariable=fi,font=('Cascad
  ia Mono SemiLight',14))
313.            en3=tk.Entry(nametk,textvariable=fich,font=('Casc
  adia Mono SemiLight',14))
314.
315.            #Placing entry boxes
316.            en1.place(x=490,y=52)
317.            en2.place(x=300,y=262)
318.            en3.place(x=200,y=294)
319.
320.            #Function to execute query for updating record
  using movie name
321.            def finallyupdating(event=None):
322.
323.                #Getting information from entry boxes
324.                up=upe.get()
325.                fields=int(fi.get())
326.                fieldch=fich.get()
327.
328.                #Checking for which data is to be updated
329.                if fields==1:
330.                    field='Movie_Name'
331.                elif fields==2:
332.                    field='Genre'
333.                elif fields==3:
334.                    field='Date_of_release'
335.                elif fields==4:
336.                    field='IMDB_id'
337.                elif fields==5:
338.                    field='Director'
```

```
339.                 elif fields==6:
340.                     field='Rating'
341.
342.                 #Connecting to MySQL and executing the query
343.                 mydb=
   sq.connect(host="localhost",user="root",passwd="root",database=
   "movie_database")
344.                 cursor=mydb.cursor()
345.                 update="UPDATE Movies set {} = '{}' WHERE
   Movie_Name = '{}'".format(field,fieldch,up)
346.                 cursor.execute(update)
347.                 mydb.commit()
348.
349.                 #Displaying message for successful update
350.                 lab0=tk.Label(nametk,text="Record
   Updated!",font=('Cascadia Mono SemiLight',24),bg='#42c8f5')
351.                 lab0.place(x=240,y=325)
352.
353.                 #Setting all entry boxes to blank so that
   more updates can be done
354.                 upe.set('')
355.                 fi.set('')
356.                 fich.set('')
357.
358.             #Function to ask confirmation from user for
   quiting
359.             def on_closingname():
360.                 if
   messagebox.askyesno(title='QUIT?',message='Are you sure you
   want to quit'):
361.                     nonlocal nametk
362.                     nametk.destroy() #Closing this window
363.                     recreate_root() # Re-opening root window
364.                 else:
365.                     pass
366.             nametk.bind_all('<Return>', finallyupdating)
367.             nametk.protocol('WM_DELETE_WINDOW',on_closingname
   )
368.
369.         #Function to update using IMDB ID
370.         def updatewithid():
371.
372.             #Closing choice window
373.             nonlocal updatetk
374.             updatetk.destroy()
375.
376.             #Creating window to update using IMDB ID
```

```
377.            idtk=tk.Tk()
378.            idtk.geometry('850x380')
379.            idtk.configure(bg='#42c8f5')
380.            idtk.title('Updating Record using IMDB ID')
381.
382.            #Creating labels
383.            lab0=tk.Label(idtk,text='Update
  Record',font=('Cascadia Mono
  SemiLight',18,'bold'),bg='#42c8f5')
384.            lab1=tk.Label(idtk,text='--> 1. Movie name
  ',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
385.            lab2=tk.Label(idtk,text='--> 2.
  Genre',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
386.            lab3=tk.Label(idtk,text='--> 3. Date of
  Release',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
387.            lab4=tk.Label(idtk,text='--> 4. IMDB
  Id',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
388.            lab5=tk.Label(idtk,text='--> 5.
  Director',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
389.            lab9=tk.Label(idtk,text='--> 6. IMDB
  Rating',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
390.            lab6=tk.Label(idtk,text="IMDB ID of the movie
  whose record you want to update:",font=('Cascadia Mono
  SemiLight',14),bg='#42c8f5')
391.            lab7=tk.Label(idtk,text="Record you want to
  update:",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
392.            lab8=tk.Label(idtk,text="Enter the
  change:",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
393.
394.            #Placing labels
395.            lab0.pack()
396.            lab6.place(x=10,y=50)
397.            lab1.place(x=10,y=80)
398.            lab2.place(x=10,y=110)
399.            lab3.place(x=10,y=140)
400.            lab4.place(x=10,y=170)
401.            lab5.place(x=10,y=200)
402.            lab9.place(x=10,y=230)
403.            lab7.place(x=10,y=260)
404.            lab8.place(x=10,y=290)
405.
406.            #Initialising variables to read entry box
407.            upe=StringVar()
408.            fi=StringVar()
409.            fich=StringVar()
410.
411.            #Creating entry boxes
```

```
412.             en1=tk.Entry(idtk,textvariable=upe,font=('Cascadi
   a Mono SemiLight',14))
413.             en2=tk.Entry(idtk,textvariable=fi,font=('Cascadia
   Mono SemiLight',14))
414.             en3=tk.Entry(idtk,textvariable=fich,font=('Cascad
   ia Mono SemiLight',14))
415.
416.             #Placing entry boxes
417.             en1.place(x=600,y=52)
418.             en2.place(x=300,y=262)
419.             en3.place(x=200,y=294)
420.
421.             #Function to execute query for updating record
   using IMDB ID
422.             def finallyupdating(event=None):
423.
424.                 #Getting information from entry boxes
425.                 up=upe.get()
426.                 fields=int(fi.get())
427.                 fieldch=fich.get()
428.
429.                 #Checking for which data is to be updated
430.                 if fields==1:
431.                     field='Movie_Name'
432.                 elif fields==2:
433.                     field='Genre'
434.                 elif fields==3:
435.                     field='Date_of_release'
436.                 elif fields==4:
437.                     field='IMDB_id'
438.                 elif fields==5:
439.                     field='Director'
440.                 elif fields==6:
441.                     field='Rating'
442.
443.                 #Connecting to MySQL and executing the query
444.                 mydb=
   sq.connect(host="localhost",user="root",passwd="root",database=
   "movie_database")
445.                 cursor=mydb.cursor()
446.                 update="UPDATE Movies set {} = '{}' WHERE
   IMDB_ID= '{}'".format(field,fieldch,up)
447.                 cursor.execute(update)
448.                 mydb.commit()
449.
450.                 #Displaying message for successful update
```

```
451.                 lab0=tk.Label(idtk,text="Record
  Updated!",font=('Cascadia Mono SemiLight',24),bg='#42c8f5')
452.                 lab0.place(x=240,y=325)
453.
454.                 #Setting all entry boxes to blank so that
  more updates can be made
455.                 upe.set('')
456.                 fi.set('')
457.                 fich.set('')
458.
459.             #Function to ask confirmation from user for
  quiting
460.             def on_closingid():
461.                 if
  messagebox.askyesno(title='QUIT?',message='Are you sure you
  want to quit'):
462.                     nonlocal idtk
463.                     idtk.destroy() #Closing this window
464.                     recreate_root() #Re-opening root window
465.                 else:
466.                     pass
467.             idtk.bind_all('<Return>', finallyupdating)
468.             idtk.protocol('WM_DELETE_WINDOW',on_closingid)
469.
470.         updatetk.bind_all('<Return>', updateit)
471.         updateit()
472.         updatetk.protocol('WM_DELETE_WINDOW',on_closing)
473.         updatetk.mainloop()
474.
475.     #Function for deleting a record
476.     def delete():
477.
478.         #Closing menu window
479.         root.destroy()
480.
481.         #Creating window to delete a record
482.         deletetk=tk.Tk()
483.         deletetk.geometry('1000x100')
484.         deletetk.configure(bg='#42c8f5')
485.         deletetk.title('Delete Record')
486.
487.         #Asking user if they want to use the movie name or
  IMDB ID to delete the record
488.         #Creating labels
489.         lab0=tk.Label(deletetk,text='Delete
  Record',font=('Cascadia Mono
  SemiLight',18,'bold'),bg='#42c8f5')
```

```
        lab1=tk.Label(deletetk,text='Enter 1 to use movie name or 2 to use IMDB ID to delete the data:',font=('Cascadia Mono SemiLight',14),bg='#42c8f5')

        #Placing labels
        lab0.pack()
        lab1.place(x=10,y=50)

        #Initializing variable to read the entry box data
        val=StringVar()

        #Creating and placing entry box
        en1=tk.Entry(deletetk,textvariable=val,font=('Cascadia Mono SemiLight',14))
        en1.place(x=730,y=53)

        #Function to ask for confirmation and close the window
        def on_closing():
                if messagebox.askyesno(title='QUIT?',message='Are you sure you want to quit'):
                    nonlocal deletetk
                    deletetk.destroy() #Closing this window
                    recreate_root() #Re-opening root window
                else:
                    pass
        deletetk.protocol('WM_DELETE_WINDOW',on_closing)

        #Checking whether user wants to delete using movie name or IMDB ID
        def deleteit(event=None):
            char=val.get()
            while char!='':
                if char=='1':
                    deletewithname()
                    break
                elif char=='2':
                    deletewithid()
                    break

        #Function to delete using movie name
        def deletewithname():

            #Closing choice window
            nonlocal deletetk
            deletetk.destroy()
```

```
530.
531.             #Creating window to delete using movie name
532.             nametk=tk.Tk()
533.             nametk.geometry('1060x130')
534.             nametk.configure(bg='#42c8f5')
535.             nametk.title('Deleting Record using name')
536.
537.             #Creating labels
538.             lab0=tk.Label(nametk,text='Delete
  Record',font=('Cascadia Mono
  SemiLight',18,'bold'),bg='#42c8f5')
539.             lab1=tk.Label(nametk,text='Enter the name of the
  movie whose data you want to delete: ',font=('Cascadia Mono
  SemiLight',18),bg='#42c8f5')
540.
541.             #Placing labels
542.             lab0.pack()
543.             lab1.place(x=10,y=50)
544.
545.             #Initialising variable to read entry box
546.             de=StringVar()
547.
548.             #Creating and placing entry box
549.             en1=tk.Entry(nametk,textvariable=de,font=('Cascad
  ia Mono SemiLight',14))
550.             en1.place(x=825,y=59)
551.
552.             #Function to execute query for deleteing record
  using movie name
553.             def finallydeleting(event=None):
554.                 #Getting information from entry box
555.                 dele=de.get()
556.
557.                 #Connecting to MySQL and executing the query
558.                 c=sq.connect(host="localhost",user="root",pas
  swd="root",database="movie_database")
559.                 cursor=c.cursor()
560.                 sql="DELETE FROM Movies WHERE
  Movie_Name='{}'".format(dele)
561.                 cursor.execute(sql)
562.                 c.commit()
563.
564.                 #Displaying message for successful delete
565.                 lab2=tk.Label(nametk,text="Record
  Deleted!",font=('Cascadia Mono
  SemiLight',15,'bold'),bg='#42c8f5')
566.                 lab2.place(x=400,y=90)
```

```
567.
568.                 #Setting all entry boxes to blank so that
  more updates can be done
569.                 de.set('')
570.
571.             #Function to ask confirmation from user for
  quiting
572.             def on_closingname():
573.                 if
  messagebox.askyesno(title='QUIT?',message='Are you sure you
  want to quit'):
574.                     nonlocal nametk
575.                     nametk.destroy() #Closing this window
576.                     recreate_root() #Re-opening root window
577.                 else:
578.                     pass
579.             nametk.bind_all('<Return>', finallydeleting)
580.             nametk.protocol('WM_DELETE_WINDOW',on_closingname
  )
581.
582.         #Function to delete using IMDB ID
583.         def deletewithid():
584.
585.             #Closing choice window
586.             nonlocal deletetk
587.             deletetk.destroy()
588.
589.             #Creating window to delete using movie name
590.             idtk=tk.Tk()
591.             idtk.geometry('1150x110')
592.             idtk.configure(bg='#42c8f5')
593.             idtk.title('Deleting Record using IMDB ID')
594.
595.             #Creating labels
596.             lab0=tk.Label(idtk,text='Delete
  Record',font=('Cascadia Mono
  SemiLight',18,'bold'),bg='#42c8f5')
597.             lab1=tk.Label(idtk,text='Enter the IMDB ID of the
  movie whose data you want to delete: ',font=('Cascadia Mono
  SemiLight',18),bg='#42c8f5')
598.
599.             #Placing labels
600.             lab0.pack()
601.             lab1.place(x=10,y=50)
602.
603.             #Initialising variable to read entry box
604.             de=StringVar()
```

```
605.
606.             #Creating and placing entry boxes
607.             en1=tk.Entry(idtk,textvariable=de,font=('Cascadia
  Mono SemiLight',14))
608.             en1.place(x=870,y=59)
609.
610.             #Function to execute query for deleteing record
  using IMDB ID
611.             def finallydeleting(event=None):
612.                 #Getting information from entry box
613.                 dele=de.get()
614.
615.                 #Connecting to MySQL and executing the query
616.                 c=sq.connect(host="localhost",user="root",pas
  swd="root",database="movie_database")
617.                 cursor=c.cursor()
618.                 sql="DELETE FROM Movies WHERE IMDB_id =
  '{}'".format(dele)
619.                 cursor.execute(sql)
620.                 c.commit()
621.
622.                 #Displaying message for successful delete
623.                 lab2=tk.Label(idtk,text="Record
  Deleted!",font=('Cascadia Mono
  SemiLight',15,'bold'),bg='#42c8f5')
624.                 lab2.place(x=320,y=80)
625.
626.                 #Setting all entry boxes to blank so that
  more updates can be done
627.                 de.set('')
628.
629.             #Function to ask confirmation from user for
  quiting
630.             def on_closingid():
631.                 if
  messagebox.askyesno(title='QUIT?',message='Are you sure you
  want to quit'):
632.                     nonlocal idtk
633.                     idtk.destroy() #Closing this window
634.                     recreate_root() #Re-opening root window
635.                 else:
636.                     pass
637.             idtk.bind_all('<Return>', finallydeleting)
638.             idtk.protocol('WM_DELETE_WINDOW',on_closingid)
639.
640.         deletetk.bind_all('<Return>',deleteit)
641.         deleteit()
```

```
642.         deletetk.mainloop()
643.
644.
645.     #Function for searching a record
646.     def search():
647.
648.         #Closing menu window
649.         root.destroy()
650.
651.         #Creating window to search a record
652.         searchtk=tk.Tk()
653.         searchtk.geometry('1000x100')
654.         searchtk.configure(bg='#42c8f5')
655.         searchtk.title('Search Record')
656.
657.         #Asking user if they want to use the movie name or
    IMDB ID to search the record
658.         #Creating labels
659.         lab0=tk.Label(searchtk,text='Search
    Record',font=('Cascadia Mono
    SemiLight',18,'bold'),bg='#42c8f5')
660.         lab1=tk.Label(searchtk,text='Enter 1 to use movie
    name or 2 to use IMDB ID to search the data:',font=('Cascadia
    Mono SemiLight',14),bg='#42c8f5')
661.
662.         #Placing labels
663.         lab0.pack()
664.         lab1.place(x=10,y=50)
665.
666.         #Initializing variable to read the entry box data
667.         val=StringVar()
668.
669.         #Creating and placing entry box
670.         en1=tk.Entry(searchtk,textvariable=val,font=('Cascadi
    a Mono SemiLight',14))
671.         en1.place(x=730,y=53)
672.
673.         #Function to ask for confirmation and close the
    window
674.         def on_closing():
675.                 if
    messagebox.askyesno(title='QUIT?',message='Are you sure you
    want to quit'):
676.                     nonlocal searchtk
677.                     searchtk.destroy() #Closing this window
678.                     recreate_root() #Re-opening root window
679.                 else:
```

```
                    pass
        searchtk.protocol('WM_DELETE_WINDOW',on_closing)

        #Checking whether user wants to search using movie
  name or IMDB ID
        def searchit(event=None):
            char=val.get()
            while char!='':
                if char=='1':
                    searchwithname()
                    break
                elif char=='2':
                    searchwithid()
                    break

        #Function to search using movie name
        def searchwithname():

            #Closing choice window
            nonlocal searchtk
            searchtk.destroy()

            #Creating window to search using movie name
            nametk = tk.Tk()
            nametk.geometry('950x100')
            nametk.configure(bg='#42c8f5')
            nametk.title('Searching Record using name')

            #Creating labels
            lab0 = tk.Label(nametk, text='Search Record',
  font=('Cascadia Mono SemiLight', 18, 'bold'), bg='#42c8f5')
            lab1 = tk.Label(nametk, text='Enter the name of
  the movie whose data you want to search: ', font=('Cascadia
  Mono SemiLight', 14), bg='#42c8f5')

            #Placing labels
            lab0.pack()
            lab1.place(x=10,y=50)

            #Initializing variable to read entry box
            search = StringVar()

            #Creating and placing entry box
            en1 = tk.Entry(nametk, textvariable=search,
  font=('Cascadia Mono SemiLight', 14))
            en1.place(x=650,y=53)

```

```
722.             #Function to execute query for searching record
  using movie name and displaying it
723.             def finallysearching(event=None):
724.                 try:
725.                     #Getting information from entry box
726.                     idd = search.get()
727.
728.                     #Connecting to MySQL and executing the
  query
729.                     mydb = sq.connect(host='localhost',
  user='root', password='root', database='movie_database')
730.                     cursor = mydb.cursor()
731.                     cursor.execute("SELECT * FROM Movies
  WHERE Movie_name = '{}'".format(idd))
732.
733.                     #Reading the output provied by MySQL
734.                     result = cursor.fetchall()
735.                     #Displaying output according to the
  result obtained from the query
736.                     #If record exists
737.                     if result:
738.
739.                         #New window to display data
740.                         display_window = tk.Tk()
741.                         display_window.geometry('1040x110')
742.                         display_window.configure(bg='#42c8f5'
  )
743.                         display_window.title('Search Results
  for Movie Name')
744.
745.                         #Creating header labels for the table
746.                         header_labels = ['Movie Name',
  'Genre','Date of Release', 'IMDB ID', 'Director',
  'Rating','Watched it?']
747.                         for i, header in
  enumerate(header_labels):
748.                             tk.Label(display_window,
  text=header, font=('Cascadia Mono SemiLight', 16),
  bg='#42c8f5').grid(row=0, column=i, padx=10, pady=10)
749.
750.                         #Adding movie records in rows
751.                         for i, record in enumerate(result):
752.                             for j, value in
  enumerate(record):
753.                                 tk.Label(display_window,
  text=value, font=('Cascadia Mono SemiLight', 14),
  bg='#42c8f5').grid(row=i + 1, column=j, padx=10, pady=5)
```

```
754.
755.                         display_window.mainloop()
756.                     else:
757.                         messagebox.showinfo("No Results", "No
    records found for the given IMDB ID.")
758.                 except Exception as e:
759.                     print("Error: {e}")
760.
761.             #Function to ask confirmation from user for
    quiting
762.             def on_closingname():
763.                 if
    messagebox.askyesno(title='QUIT?',message='Are you sure you
    want to quit'):
764.                     nonlocal nametk
765.                     nametk.destroy() #Closing this window
766.                     recreate_root() #Re-opening root window
767.                 else:
768.                     pass
769.             nametk.bind_all('<Return>', finallysearching)
770.             nametk.protocol('WM_DELETE_WINDOW',
    on_closingname)
771.
772.         #Function to search using movie name
773.         def searchwithid():
774.
775.             #Closing choice window
776.             nonlocal searchtk
777.             searchtk.destroy()
778.
779.             #Creating window to search using IMDB ID
780.             idtk = tk.Tk()
781.             idtk.geometry('950x100')
782.             idtk.configure(bg='#42c8f5')
783.             idtk.title('Searching Record using IMDB ID')
784.
785.             #Creating labels
786.             lab0 = tk.Label(idtk, text='Search Record',
    font=('Cascadia Mono SemiLight', 18, 'bold'), bg='#42c8f5')
787.             lab1 = tk.Label(idtk, text='Enter the IMDB ID of
    the movie whose data you want to search: ', font=('Cascadia
    Mono SemiLight', 14), bg='#42c8f5')
788.
789.             #Placing labels
790.             lab0.pack()
791.             lab1.place(x=10,y=50)
792.
```

```
793.             #Initializing variable to read entry box
794.             search = StringVar()
795.
796.             #Creating and placing entry box
797.             en1 = tk.Entry(idtk, textvariable=search,
  font=('Cascadia Mono SemiLight', 14))
798.             en1.place(x=690,y=53)
799.
800.             #Function to execute query for searching record
  using movie name and displaying it
801.             def finallysearching(event=None):
802.                 try:
803.                     #Getting information from entry box
804.                     idd = search.get()
805.
806.                     #Connecting to MySQL and executing the
  query
807.                     mydb = sq.connect(host='localhost',
  user='root', password='root', database='movie_database')
808.                     cursor = mydb.cursor()
809.                     cursor.execute("SELECT * FROM Movies
  WHERE IMDB_id = '{}'".format(idd))
810.
811.                     #Reading the output provied by MySQL
812.                     result = cursor.fetchall()
813.                     #Displaying output according to the
  result obtained from the query
814.                     #If record exists
815.                     if result:
816.
817.                         #New window to display data
818.                         display_window = tk.Tk()
819.                         display_window.geometry('1040x110')
820.                         display_window.configure(bg='#42c8f5'
  )
821.                         display_window.title('Search Results
  for  IMDB ID')
822.
823.                         #Creating header labels for the table
824.                         header_labels = ['Movie Name',
  'Genre','Date of Release', 'IMDB ID', 'Director',
  'Rating','Watched it?']
825.                         for i, header in
  enumerate(header_labels):
826.                             tk.Label(display_window,
  text=header, font=('Cascadia Mono SemiLight', 16),
  bg='#42c8f5').grid(row=0, column=i, padx=10, pady=10)
```

```
827.
828.                         #Adding movie records in rows
829.                         for i, record in enumerate(result):
830.                             for j, value in
    enumerate(record):
831.                                 tk.Label(display_window,
    text=value, font=('Cascadia Mono SemiLight', 14),
    bg='#42c8f5').grid(row=i + 1, column=j, padx=10, pady=5)
832.
833.                         display_window.mainloop()
834.                     else:
835.                         messagebox.showinfo("No Results", "No
    records found for the given IMDB ID.")
836.                 except Exception as e:
837.                     print("Error: {e}")
838.
839.             #Function to ask confirmation from user for
    quiting
840.             def on_closingid():
841.                 if
    messagebox.askyesno(title='QUIT?',message='Are you sure you
    want to quit'):
842.                     nonlocal idtk
843.                     idtk.destroy() #Closing this window
844.                     recreate_root() #Re-opening root window
845.                 else:
846.                     pass
847.             idtk.bind_all('<Return>', finallysearching)
848.             idtk.protocol('WM_DELETE_WINDOW', on_closingid)
849.
850.         searchtk.bind_all('<Return>',searchit)
851.
852.     #Function for displaying the data
853.     def display():
854.
855.         #Closing menu window
856.         root.destroy()
857.
858.         #Creating window to search a record
859.         displaytk=tk.Tk()
860.         displaytk.configure(bg='#42c8f5')
861.         displaytk.geometry('1210x400')
862.         displaytk.title('Display Record')
863.
864.         #Connecting to MySQL and executing the query
865.         mydb=sq.connect(host="localhost", user="root",
    password="root", database="movie_database")
```

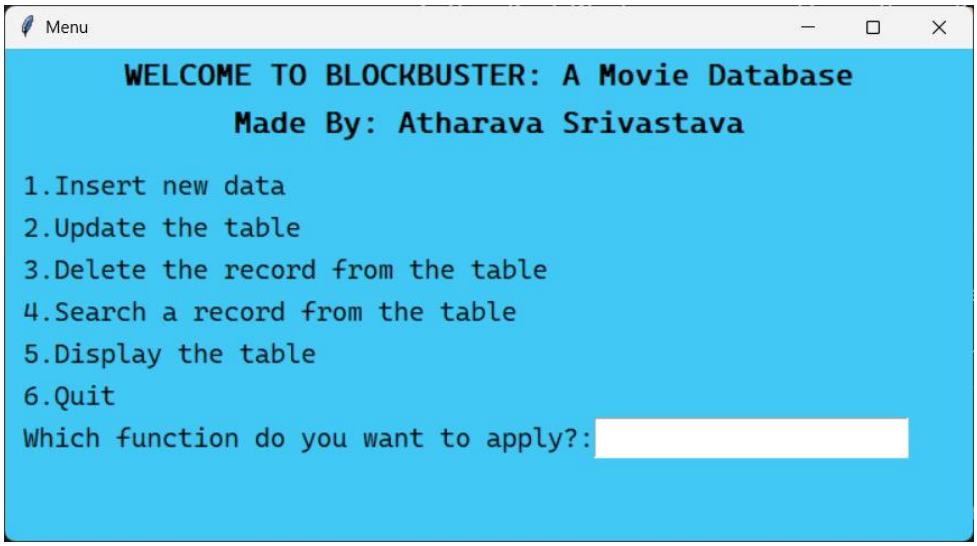
```
866.         cursor=mydb.cursor()
867.         sql="SELECT * FROM Movies ORDER BY Movie_Name"
868.         cursor.execute(sql)
869.         myresult=cursor.fetchall()
870.
871.         #Creating a frame
872.         container=tk.Frame(displaytk, bg='#42c8f5')
873.         container.pack(fill='both', expand=True)
874.
875.         #Creating the canvas and the scrollbar
876.         canvas = tk.Canvas(container, bg='#42c8f5')
877.         scrollbar = tk.Scrollbar(container,
    orient='vertical', command=canvas.yview)
878.         scrollable_frame = tk.Frame(canvas, bg='#42c8f5')
879.
880.         #Configuring the scrollable frame
881.         scrollable_frame.bind("<Configure>",lambda e:
    canvas.configure(scrollregion=canvas.bbox("all")))
882.         canvas.create_window((0, 0), window=scrollable_frame,
    anchor="nw")
883.         canvas.configure(yscrollcommand=scrollbar.set)
884.
885.         #Adding the header labels
886.         header_labels = ['Movie Name', 'Genre', 'Date of
    Release', 'IMDB Id', 'Director', 'Rating','Watched it?']
887.         for i, header in enumerate(header_labels):
888.             tk.Label(scrollable_frame, text=header,
    font=('Cascadia Mono SemiLight', 16), bg='#42c8f5').grid(row=0,
    column=i, padx=10, pady=10)
889.
890.         #Adding movie records in rows
891.         for i, record in enumerate(myresult):
892.             for j, value in enumerate(record):
893.                 tk.Label(scrollable_frame, text=value,
    font=('Cascadia Mono SemiLight', 14),
    bg='#42c8f5').grid(row=i+1, column=j, padx=10, pady=5)
894.
895.         #Placing the canvas and the scrollbar
896.         canvas.pack(side="left", fill="both", expand=True)
897.         scrollbar.pack(side="right", fill="y")
898.
899.         #Function to ask confirmation from user on quitting
900.         def on_closing():
901.             if messagebox.askyesno(title='QUIT?',
    message='Are you sure you want to quit'):
902.                 displaytk.destroy()  #Closing this window
903.                 recreate_root()  #Re-opening root window
```

```
            else:
                pass

        displaytk.protocol('WM_DELETE_WINDOW', on_closing)
        displaytk.mainloop()

    #Root window
    root=tk.Tk()
    root.geometry('690x350')
    root.configure(bg='#42c8f5')
    root.title('Menu')
    lab3=tk.Label(root, text="WELCOME TO BLOCKBUSTER: A Movie
  Database",font=('Cascadia Mono
  SemiLight',16,'bold'),bg='#42c8f5')
    lab6=tk.Label(root, text="Made By: Atharava
  Srivastava",font=('Cascadia Mono
  SemiLight',16,'bold'),bg='#42c8f5')
    lab3.pack()
    lab6.pack()

    lin1=tk.Label(root,text="1.Insert new data
  ",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin2=tk.Label(root,text="2.Update the
  table",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin3=tk.Label(root,text="3.Delete the record from the
  table",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin4=tk.Label(root,text="4.Search a record from the
  table",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin5=tk.Label(root,text="5.Display the
  table",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lin6=tk.Label(root,text="6.Quit",font=('Cascadia Mono
  SemiLight',14),bg='#42c8f5')

    lin1.place(x=10,y=80)
    lin2.place(x=10,y=110)
    lin3.place(x=10,y=140)
    lin4.place(x=10,y=170)
    lin5.place(x=10,y=200)
    lin6.place(x=10,y=230)

    ch=StringVar()

    lab1=tk.Label(root,text="Which function do you want to
  apply?:",font=('Cascadia Mono SemiLight',14),bg='#42c8f5')
    lab1.place(x=10,y=260)
    en1=tk.Entry(root, textvariable=ch, font=('Cascadia Mono
  SemiLight',14))
```

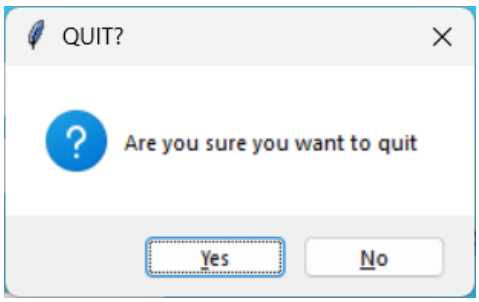
```
939.     en1.place(x=420,y=263)
940.
941.     #Function to ask confirmation from user for quiting
942.     def on_closing():
943.             if messagebox.askyesno(title='QUIT?',message='Are
  you sure you want to quit'):
944.                 root.destroy() #Closing root window
945.
946.                 #Creating exit window
947.                 exit_=tk.Tk()
948.                 exit_.geometry('500x100')
949.                 exit_.config(bg='#42c8f5')
950.                 exit_.title('Exit')
951.                 label_0=tk.Label(exit_, text="Thank
  You!",font=('Cascadia Mono SemiLight',16,'bold'),bg='#42c8f5')
952.                 label_1=tk.Label(exit_, text="Hope you have a
  nice day!",font=('Cascadia Mono
  SemiLight',16,'bold'),bg='#42c8f5')
953.                 label_0.pack()
954.                 label_1.pack()
955.             else:
956.                 pass
957.
958.     root.protocol('WM_DELETE_WINDOW',on_closing)
959.
960.     #Function to accept the choice user from menu items
961.     def choicefunc(event=None):
962.         choice=ch.get()
963.         #To insert new data
964.         if choice=='1':
965.             insert()
966.         #To update a record
967.         elif choice=='2':
968.             update()
969.         #To delete a record
970.         elif choice=='3':
971.             delete()
972.         #To search a record
973.         elif choice=='4':
974.             search()
975.         #To display the data
976.         elif choice=='5':
977.             display()
978.         #To exit the program
979.         elif choice=='6':
980.             #Creating exit window
981.             exit_=tk.Tk()
```

```
982.             exit_.geometry('500x100')
983.             exit_.config(bg='#42c8f5')
984.             exit_.title('Exit')
985.             label_0=tk.Label(exit_, text="Thank
  You!",font=('Cascadia Mono SemiLight',16,'bold'),bg='#42c8f5')
986.             label_1=tk.Label(exit_, text="Hope you have a
  nice day!",font=('Cascadia Mono
  SemiLight',16,'bold'),bg='#42c8f5')
987.             label_0.pack()
988.             label_1.pack()
989.             root.destroy()
990.
991.         #Invaild input
992.         else:
993.             lab2=tk.Label(root,text="Please Enter Valid
  Input!",font=('Cascadia Mono SemiLight',15),bg='#42c8f5')
994.             lab2.place(x=170,y=300)
995.             ch.set('')
996.
997.     #Binding Return to key accept final inputs.
998.     en1.bind('<Return>',choicefunc)
```

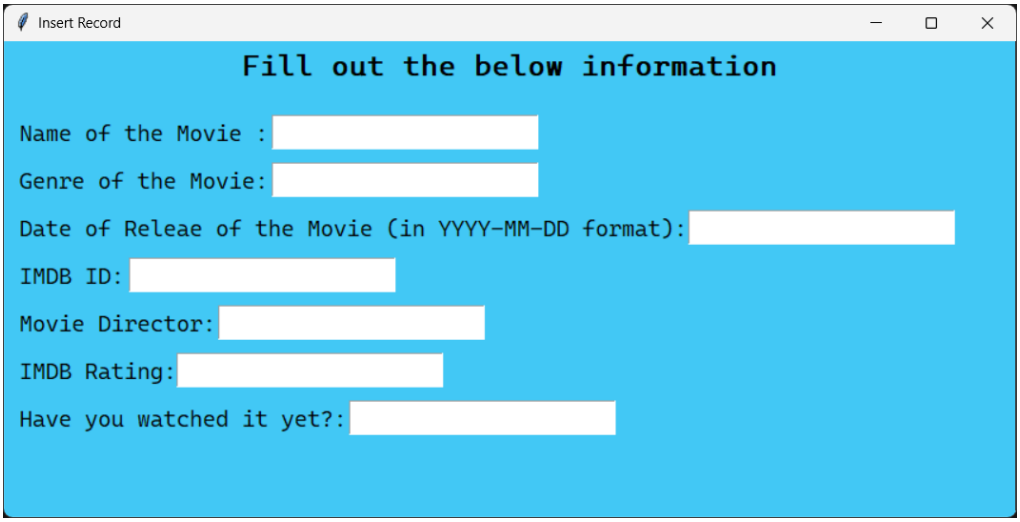
4. User Interface:



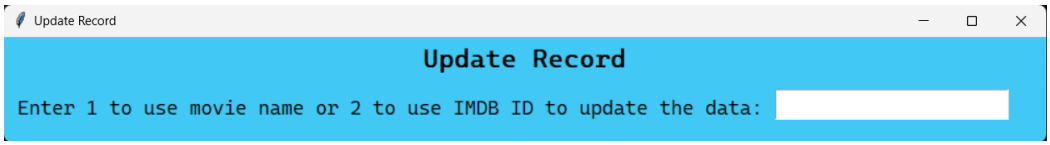
Main Menu



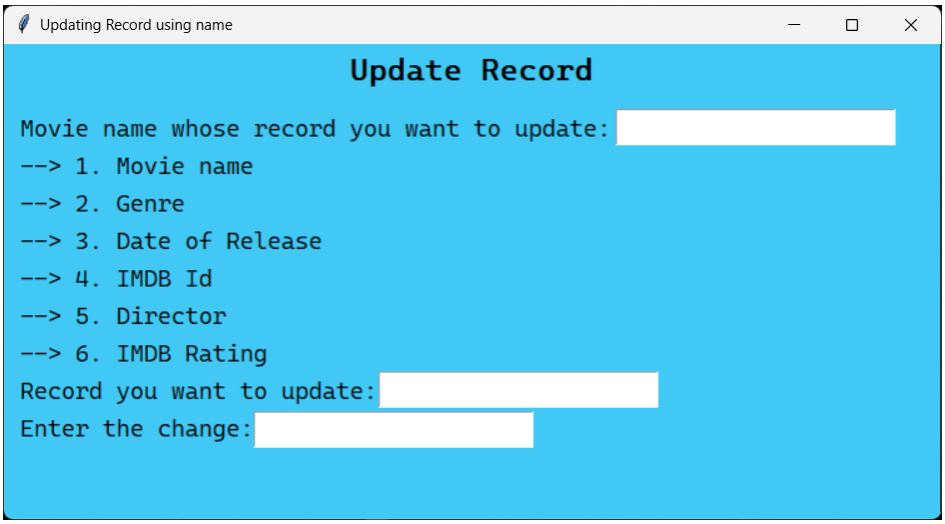
Exit Confirmation



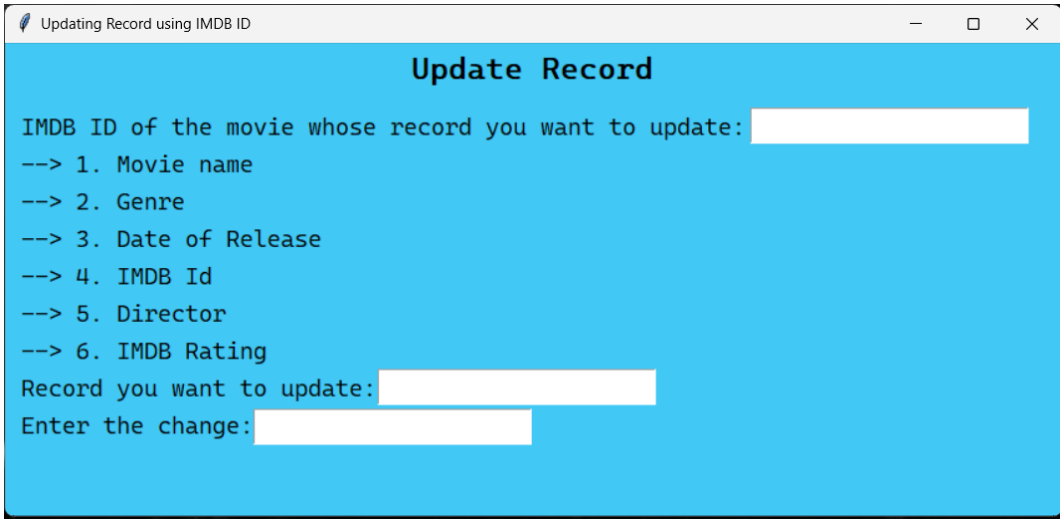
Inserting record



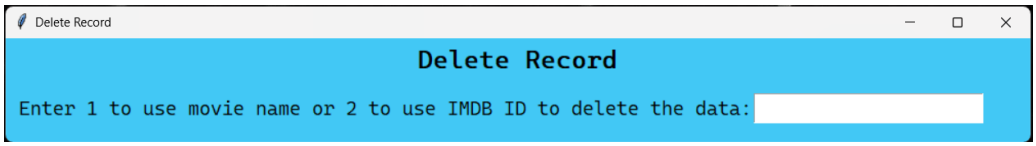
Update choice



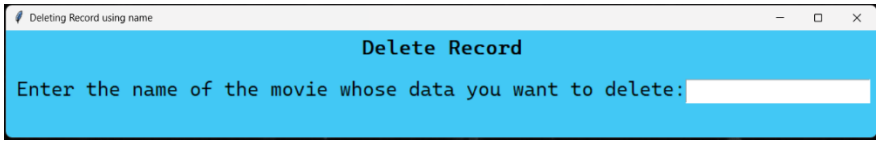
Updating with name



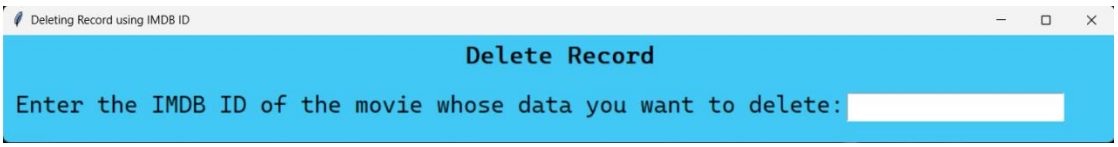
Updating with IMDB ID



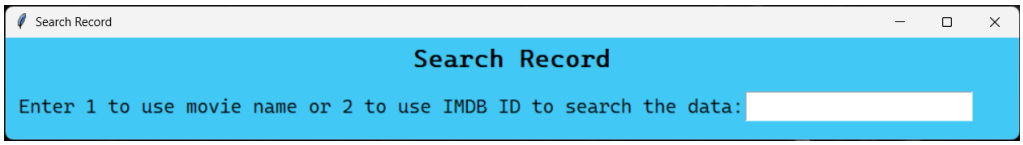
Delete choice



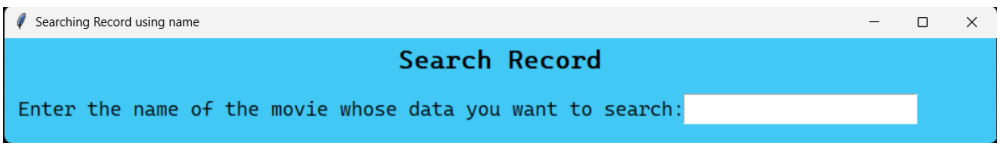
Deleting with name



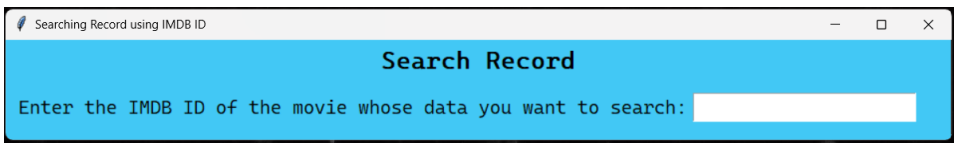
Deleting with IMDB ID



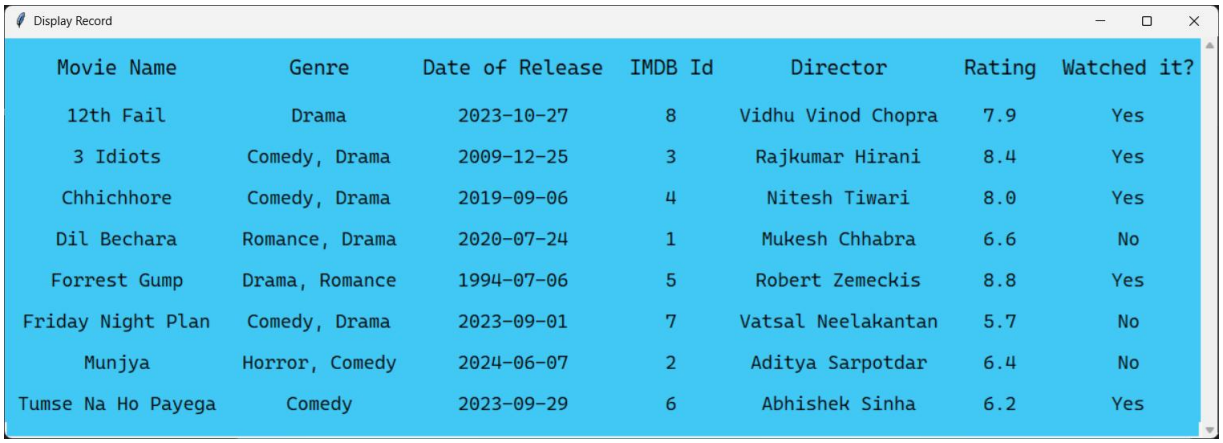
Search choice



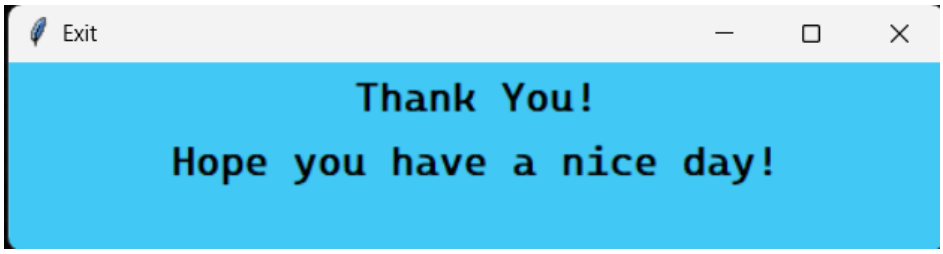
Searching with name



Searching with IMDB ID



Display



Exit

5. MySQL Table:

Field	Type	Null	Key	Default	Extra
Movie_Name	varchar(500)	YES		NULL	
Genre	varchar(100)	YES		NULL	
date_of_release	date	YES		NULL	
IMDB_id	int	YES		NULL	
Director	varchar(500)	YES		NULL	
Rating	varchar(500)	YES		NULL	
Watched_it	varchar(5)	YES		NULL	

Table Properties

Movie_Name	Genre	date_of_release	IMDB_id	Director	Rating	Watched_it
Dil Bechara	Romance, Drama	2020-07-24	1	Mukesh Chhabra	6.6	No
Munjya	Horror, Comedy	2024-06-07	2	Aditya Sarpotdar	6.4	No
3 Idiots	Comedy, Drama	2009-12-25	3	Rajkumar Hirani	8.4	Yes
Chhichhore	Comedy, Drama	2019-09-06	4	Nitesh Tiwari	8.0	Yes
Forrest Gump	Drama, Romance	1994-07-06	5	Robert Zemeckis	8.8	Yes
Tumse Na Ho Payega	Comedy	2023-09-29	6	Abhishek Sinha	6.2	Yes
Friday Night Plan	Comedy, Drama	2023-09-01	7	Vatsal Neelakantan	5.7	No
12th Fail	Drama	2023-10-27	8	Vidhu Vinod Chopra	7.9	Yes

Dummy Database

Recommendations

1. More features can be added to this project like:
    i. Ability to add personal reviews for the movie
    ii. Allow users to make a fuzzy search, i.e., ability to search even with wrong spellings
    iii. Display data with some kind of sort
2. The UI can be improved by using advanced functions of Tkinter.
3. The code can be optimized further to reduce its time complexity.

Conclusion

This applet can be used for personal use to store information about movies locally on computer systems.

Creating this project helped me explore the world of UI and Python connectivity with MySQL.

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