THE INDIAN HIGH SCHOOL
DUBAI

2023 – 2024

Name:

Class & Division:

THE INDIAN HIGH SCHOOL
DUBAI

CERTIFICATE

This is to certify that the work in this Project is the bonafide work of

Miss: _____

Class: ____ ***Division:*** _____ ***Roll No:*** _____

done during the academic year

2023-2024

Date: _____

Teacher in-charge: _____

Signature: _____

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Acknowledgement

I would like to extend my sincere and heartfelt obligation towards all those who have helped me in making this project. Without their active guidance, help, cooperation, and encouragement, I would not have been able to present the project on time.

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Overview

This project was made with the aim to help organize criminal database and make it more user friendly and accessible for future references.

The crime records are stored in a binary file and a module is created with relevant user-defined functions written for the authorized personnel to access the database and use them for comparing notes and identifying similarities etc.

The functions allow those with access to read, edit, add, remove, and find relevant data from records based on nature of crime, time/location of crime, victim details, criminal details, etc.

There are also functions to allow viewers (those not given authorized access) to search and view crime records.

Modules

A module is a file containing functions and variables defined into it. Modules contain functions that perform specific tasks and can be imported into programs when needed by the programmer. It allows for easy access of functions and efficient coding.

Modules imported in this project are – pickle, mysql.connector and time

User-defined module created is crime_module

- PICKLE

Pickle is a Python module that is used to serialize (convert an object into a character stream or binary string that contains all the information to reconstruct the object) and deserialize (loading the character stream or binary string and creating the object) Python objects. It is imported into the main program and into the user-defined 'crime_module' module to write functions that require access to the binary file in which the data is stored.

- MYSQL.CONNECTOR

MySQL Connector/Python enables Python programs to access MySQL databases, using an API that is compliant with the Python Database API Specification v2.0 (PEP 249). It is written in pure Python and does not have any dependencies except for the Python Standard Library.

- TIME

Python time module allows to work with time in Python. It allows functionality like getting the current time, pausing the Program from executing, etc. The time module in Python provides various time-related functions.

- CRIME_MODULE

All user-defined functions and variables are created in this module. It contains functions to add, remove, edit and find details across various categories such as nature of crime, suspects, criminals, victims etc. It is imported into the main program.

Functions

Functions are a named group of instructions that accomplish specific tasks when invoked. Functions can be user-defined or built-in or defined in modules. Built-in functions are predefined functions that we can use as and when required. User-defined functions are define by the programmer to make tasks easier and make the program more efficient and are often imported from user-defined modules. Functions defined in modules are those that must be imported from user-defined/built-in modules.

Built-in functions used in this program are –

1. print() – It is used to display information to the user.
2. input() – It is used to accept variables from user.
3. eval() – It allows you to evaluate arbitrary Python expressions from a string-based or compiled-code-based input.
4. str() – It converts the specified value into a string.
5. int() – It converts the specified value into an integer number.
6. range() – It returns a sequence of numbers, starting from 0 by default, and increments by 1 (by default), and stops before a specified number.
7. len() – It returns the number of items (length) in an object.
8. list.append() – It adds an element to the list at the end.
9. list.clear() – It clears the list and returns an empty list.
10. list.remove() – It takes a value as an argument and removes it from the list.
11. string.lower() – It returns the string in lowercase.
12. string.split() – It splits given text into a list of words
13. file.open() – It returns a file object, which is used to identify a file.
14. file.close() – It flushes the buffer and closes an open file.

Functions imported from modules used in this program are –

1. pickle.dump() – This function is imported from pickle module and is used to serialize (convert) python object into a byte stream.
2. pickle.load() – This function is imported from pickle module and is used to deserialize python objects convert byte stream to user-friendly python object
3. time.sleep(n) – This function gives a pause for ‘n’ seconds.
4. mysql.connector.connect() - It connects the python module with MySQL

User-defined Functions in this program are imported from user defined module 'crime_module'. They are –

1. userlogin() – It checks if the username and password if user is authorized
2. victim() – It is defined for the user to add in victim details in a new case. It is invoked in NewCase()
3. crime() – It is defined for the user to add in crime details in a new case. It is invoked in NewCase()
4. evidences() – It is defined for the user to add in evidence details in a new case. It is invoked in NewCase()
5. i_suspects() – It is defined for the user to add in suspect details in a new case. It is invoked in NewCase()
6. accuse() – It is defined for the user to add in accused details in a new case. It is invoked in NewCase()
7. multi_an() – It allows to enter multiple analysts and also checks if the entered analysts are valid. It is invoked in NewCase() and uxdets()
8. Valid_IO() - It allows to enter the investigating officer and checks if the entered value is a valid one. It is invoked in NewCase() and uxdets()
9. file() – It is defined to enter file number and cross check if it is valid. It is invoked in status(), accused(), suspects(), evidence()
10. NewCase() – It is defined to add a new case to the database.
11. status() – It is defined to update status of the case in the database. It is invoked in update() function.
12. asu() – It is a variant of status() that is called in ar() that allows you to update status in the file if accused has been removed.
13. ar() – It is a function defined to remove accused from the database. It is called in accused().
14. uiea() – It is a function defined to update accused details parameter by parameter. It is evoked in accused().
15. accused() – It is defined to add or remove or update accused details in the database. It is invoked in update() function.
16. sur() – It is a function defined to remove a suspect detail and its called in suspects().
17. ueis() – It is a function defined to update suspect details parameter by parameter. It is evoked in suspects().
18. suspects() - It is defined to add or remove or update accused details in the database. It is invoked in update() function.

19. sr() – It is defined to remove samples. It is invoked in samples() function.
20. samples() - It is defined to add or remove comparison samples for a case in the database. It is invoked in evidence() function.
21. wr() - It is defined to remove witness details. It is invoked in witnesses() function.
22. ueiw() –It is a function defined to update witness details parameter by parameter. It is evoked in witnesses().
23. witnesses() - It is defined to add or remove witness details for a case in the database. It is invoked in evidence() function.
24. evidence() - It is defined to add or remove evidences (witness details and material samples) in the database. It is invoked in update() function.
25. uxdets() – It is defined to update the department which handles the case, the investigating officers and analysts. It is invoked in update() function.
26. update() – It is defined to update, add or remove, case details in the database across various parameters like status of crime, accused details, suspect details, evidences etc.
27. updateinfile() – It is defined to update the changes made in the dictionary 'd' defined in the module to the binary file 'GBI_Records.dat'
28. history() – It is defined to return criminal history of user-inputted criminal.
29. similar() – It is defined to return details of similar crimes based on user-inputted details like charges, evidences collected etc.
30. Fno() – It is defined to accept a file number and check if its there in the database and print the case details. It is called in display()
31. adisplaystatus() – It is defined to display case details based on status - ongoing, solved, unsolved. It is called in adisplay()
32. AllCaseDpt() – It is defined to display details of cases department wise. It displays the case details of the authorized person's dept. or other dept. It is invoked in adisplaydpt()
33. adisplaydpt() – It further checks if authorized user wants to view all the cases in the department or cases handled by a particular investigating officer. It is invoked in adisplay()
34. adisplay() – It is defined to display details of case depending on parameters like status, department etc.
35. gdisplaystatus() – It is defined to display case details based on status - ongoing, solved, unsolved. It is called in gdisplay() It differs from adisplaystatus in the 'Go back' option

36. gdisplaydpt() – It further checks if user wants to view all the cases in the department or cases handled by a particular investigating officer. It is invoked in gdisplay()
37. gdisplay() – It is defined to display details of cases depending on what type of cases the user wants to see.
38. aoptions() – It shows the authorized user the options that the user can perform in the program. It invokes the updateinfile() function for when the user wants to update details for a case or add a case in the database. It invokes the update() function to update details as and when required by the user for option 1. It invokes the history() function to return the criminal history of criminal for option 2. It invokes similar() function to return details about similar cases for option 3. It invokes the NewCase() function when user wants add a case for option 4. It invokes display() function to display case details for option 5. And it breaks the loop and logs out and ends the program for option 6.
39. goptions() – It is like aoptions but is executed when user the user has not logged in with authorized access credentials. It has the same functions as aoptions() except those that allow user to make changes into the records i.e. it does not allow user to update or add a case. It invokes the history() function to return the criminal history of criminal for option 1. It invokes similar() function to return details about similar cases for option 2 It invokes display() function to display case details for option 3. And it breaks the loop and logs out and ends the program for option 4.

Files

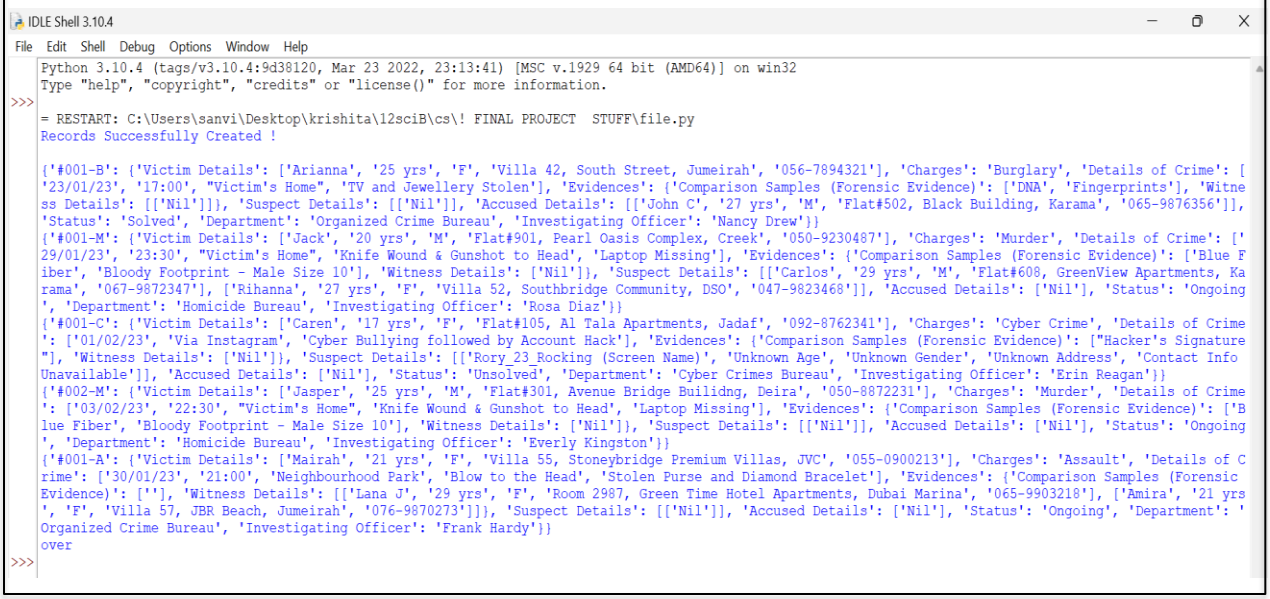
The database is stored in a binary file. Information in binary files is stored in bytes. It is stored in a computer in a sequence of bytes. These files are not human readable, hence pickle module is used to serialize and deserialize python objects.

File.py

```
d={"#001-B":
   {'Victim Details':["Arianna","25 yrs","F","Villa 42, South Street,
Jumeirah","056-7894321"],
    'Charges':"Burglary",
    'Details of Crime':["23/01/23","17:00","Victim's Home","TV and
Jewellery Stolen"],
    'Evidences':{'Comparison Samples (Forensic
Evidence)':["DNA","Fingerprints"],
                 'Witness Details':[["Nil"]]},
    'Suspect Details':[['Nil']],
    'Accused Details':[["John C","27 yrs","M","Flat#502, Black Building,
Karama","065-9876356"]],
    'Status':"Solved",
    'Department':'Organized Crime Bureau',
    'Investigating Officer':'Nancy Drew',
    "Analyst(s)":["Andre Raines","Isobel Castille"]},
   "#001-M":
   {'Victim Details':["Jack","20 yrs","M","Flat#901, Pearl Oasis Complex,
Creek","050-9230487"],
    'Charges':"Murder",
    'Details of Crime':["29/01/23","23:30","Victim's Home","Knife Wound &
Gunshot to Head","Laptop Missing"],
    'Evidences':{'Comparison Samples (Forensic Evidence)':["Blue
Fiber","Bloody Footprint - Male Size 10"],
                 'Witness Details':["Nil"]},
    'Suspect Details':[["Carlos","29 yrs","M","Flat#608, GreenView
Apartments, Karama", "067-9872347"],
                       ["Rihanna","27 yrs","F","Villa 52, Southbridge
Community, DSO", "047-9823468"]],
    'Accused Details':["Nil"],
    'Status':"Ongoing",
    'Department':'Homicide Bureau',
    'Investigating Officer':'Rosa Diaz',
    'Analyst(s)':["Kristen Vega","Ian Daniels"]},
   "#001-C":
   {'Victim Details':["Caren","17 yrs","F","Flat#105, Al Tala Apartments,
Jadaf","092-8762341"],
    'Charges':"Cyber Crime",
```

```
    'Details of Crime':["01/02/23","Via Instagram","Cyber Bullying
followed by Account Hack"],
    'Evidences':{'Comparison Samples (Forensic Evidence)':["Hacker's
Signature"],
                 'Witness Details':["Nil"]},
    'Suspect Details':[["Rory_23_Rocking (Screen Name)","Unknown
Age","Unknown Gender","Unknown Address", "Contact Info Unavailable"]],
    'Accused Details':["Nil"],
    'Status':"Unsolved",
    'Department':'Cyber Crimes Bureau',
    'Investigating Officer':'Erin Reagan',
    'Analyst(s)':["Hana Gibson","Remy Scott","Katrin Jeager"]},
   "#002-M":
   {'Victim Details':["Jasper","25 yrs","M","Flat#301, Avenue Bridge
Builidng, Deira","050-8872231"],
    'Charges':"Murder",
    'Details of Crime':["03/02/23","22:30","Victim's Home","Knife Wound &
Gunshot to Head","Laptop Missing"],
    'Evidences':{'Comparison Samples (Forensic Evidence)':["Blue
Fiber","Bloody Footprint - Male Size 10"],
                 'Witness Details':["Nil"]},
    'Suspect Details':[["Nil"]],
    'Accused Details':["Nil"],
    'Status':"Ongoing",
    'Department':'Homicide Bureau',
    'Investigating Officer':'Everly Kingston',
   'Analyst(s)': ["Jamie Kellet"]},
   "#001-A":
   {'Victim Details':["Mairah","21 yrs","F","Villa 55, Stoneybridge
Premium Villas, JVC","055-0900213"],
    'Charges':"Assault",
    'Details of Crime':["30/01/23","21:00","Neighbourhood Park","Blow to
the Head","Stolen Purse and Diamond Bracelet"],
    'Evidences':{'Comparison Samples (Forensic Evidence)':[""],
                 'Witness Details':[["Lana J","29 yrs","F","Room 2987,
Green Time Hotel Apartments, Dubai Marina", "065-9903218"],
                                    ["Amira","21 yrs","F","Villa 57, JBR
Beach, Jumeirah","076-9870273"]]},
    'Suspect Details':[["Nil"]],
    'Accused Details':["Nil"],
    'Status':"Ongoing",
    'Department':'Organized Crime Bureau',
    'Investigating Officer':'Frank Hardy',
    'Analyst(s)':["Jubal Valentine"]},
   "#003-M":
   {'Victim Details':["Evan Buckley","26 yrs","M","#2201, Starry Night
Apartments, Broad Street, Elkfield Drive","058-0913883"],
    'Charges':"Murder",
    'Details of Crime':["23/01/2022","02:00","Elkfield Park","Gunshot to
Chest","Missing Ring"],
    'Evidences':{'Comparison Samples (Forensic Evidence)':["GSR on
Victim's Clothing"],
                 'Witness Details':["Nil"]},
    'Suspect Details':[["Nil"]],
```

```
    'Accused Details':["Nil"],
    'Status':"Ongoing",
    'Department':'Homicide Bureau',
    'Investigating Officer':'Eve Dallas',
    'Analyst(s)':["Jamie Kellet","Ian Daniels"]}}
D={}
import pickle
f=open('GBI_Records.dat','wb+')
for k in d:
    x={}
    x[k]=d[k]
    pickle.dump(x,f)
f.seek(0)
f=open('GBI_Records.dat','rb')
try:
    while True:
        x=pickle.load(f)
        for k in x:
            D[k]=x[k]
        print(x)
except EOFError:
    print('over')
    f.close()
print(D)
```



SQL Table

SQL stands for Structured Query Language. SQL is a standard language for storing, manipulating and retrieving data in databases. The database created and used in this project is ‘GBI_Records’ and it has a table titled ‘USER_LOGIN’ which contains the user credentials of all authorized persons.

My SQL 8.0
Command Line

```
Enter password: ********
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 72
Server version: 8.0.34 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> DESC GBI_RECORDS.USER_LOGIN;
+---------------+-------------+------+-----+---------+----------------+
| Field         | Type        | Null | Key | Default | Extra          |
+---------------+-------------+------+-----+---------+----------------+
| S_NO          | int         | NO   | PRI | NULL    | auto_increment |
| FULL_NAME     | varchar(100)| NO   |     | NULL    |                |
| EMAIL         | varchar(50) | NO   | UNI | NULL    |                |
| DESIGNATION   | varchar(50) | NO   |     | NULL    |                |
| DEPARTMENT    | varchar(100)| YES  |     | NULL    |                |
| USER_NAME     | varchar(50) | NO   | UNI | NULL    |                |
| PASSWORD      | varchar(200)| NO   |     | NULL    |                |
| LAST_LOGGED_IN| datetime    | YES  |     | NULL    |                |
+---------------+-------------+------+-----+---------+----------------+
8 rows in set (0.02 sec)
```

```
mysql> SELECT * FROM GBI_RECORDS.USER_LOGIN;
```

S_NO	FULL_NAME	EMAIL	DESIGNATION	DEPARTMENT	USER_NAME	PASSWORD	LAST_LOGGED_IN
1	ESHAL AJMAL	ESHAL36542@GMAIL.COM	DATABASE ADMINISTOR	N/A	ESHAL_A	ESHAL@2006	NULL
2	KRISHITA SUDHAKARAN	KRISHITA44867@GMAIL.COM	DATABASE ADMINISTOR	N/A	KRISH_8	KRISHITAS	2023-10-24 07:44:44
3	JOANN ELIZABETH BYJU	JOANNBYJU@GMAIL.COM	DATABASE ADMINISTOR	N/A	JOANN_B	JOANNEB	NULL
4	ALIZA CARR	ALIZCAR2412@GMAIL.COM	DIRECTOR	N/A	CARR_ALIZA	CARR_DIRECTOR@GBI_ALIZA	NULL
5	ALICE FRANK	ALICE803_F@GMAIL.COM	DEPUTY DIRECTOR	N/A	FRANK_ALICE	FRANK_308_ALICE	NULL
6	NICOLE SEQUIRA	NICOLESEQUIRA@GMAIL.COM	ASSISTANT DIRECTOR	N/A	SEQUIRA_NICOLE	NS475BQ052	NULL
7	IZMA MARWANI	IZMAWANI@GMAIL.COM	BUREAU DIRECTOR	HOMICIDE BUREAU	MARWANI_IZMA	MAR@2002@WANI_IZMA	NULL
8	BARBARA ROBERTS	BARBARAMROBERTS@GMAIL.COM	BUREAU DIRECTOR	FINANCIAL CRIMES BUREAU	ROBERTS_BARBARA	KENSUCKS	NULL
9	GLORIA FERNANDEZ	GLORIAF9@GMAIL.COM	BUREAU DIRECTOR	ORGANIZED CRIME BUREAU	FERNANDEZ_GLORIA	GLORI@_FE&@&DEZ	NULL
10	DAYANARA RUIZ	DAYARUIZNARA@GMAIL.COM	BUREAU DIRECTOR	CYBER CRIMES BUREAU	RUIZ_DAYANARA	RUETODAYA	2023-11-14 12:49:49
11	EVE DALLAS	DALLAS.EVE@GMAIL.COM	SPECIAL AGENT IN CHARGE	HOMICIDE BUREAU	DALLAS_EVE	EVE&ROARKE@NYSPD	NULL
12	JOHN WATSON	WATSONJ@GMAIL.COM	SPECIAL AGENT IN CHARGE	FINANCIAL CRIMES BUREAU	WATSON_JOHN	JOHNTHESIDEKICK	NULL
13	SHERLOCK HOLMES	HOMESSHERLOCK@GMAIL.COM	SPECIAL AGENT IN CHARGE	ORGANIZED CRIME BUREAU	HOLMES_SHERLOCK	ARTHURCONANDOYLE	NULL
14	IAN MERRICK	MERRICKIA@GMAIL.COM	SPECIAL AGENT IN CHARGE	CYBER CRIMES BUREAU	MERRICK_IAN	EIANEMERRICK	NULL
15	ALEXANDER PERRO	ALEXPERRO@GMAIL.COM	ASST. SPECIAL AGENT IN CHARGE	HOMICIDE BUREAU	PERRO_ALEXANDER	123PERRO456ALEX	NULL
16	DELIA ROARKE	RODELIA@GMAIL.COM	ASST. SPECIAL AGENT IN CHARGE	FINANCIAL CRIMES BUREAU	ROARKE_DELIA	DELIA_IAN_L	NULL
17	JANE RIZZOLI	RIZZOLIJ@GMAIL.COM	ASST. SPECIAL AGENT IN CHARGE	ORGANIZED CRIME BUREAU	RIZZOLI_JANE	JANE@RIZZOLI@ISLES	NULL
18	MAURA ISLES	ISLESMAUR@GMAIL.COM	ASST. SPECIAL AGENT IN CHARGE	CYBER CRIMES BUREAU	ISLES_MAURA	MAURAPEDIA	NULL
19	DIANA PRINCE	PRINCED@GMAIL.COM	SPECIAL AGENT	HOMICIDE BUREAU	PRINCE_DIANA	THEMYSCIRA4EVER	NULL
20	KEVIN JACKSON	JACKEDKEVIN@GMAIL.COM	SPECIAL AGENT	HOMICIDE BUREAU	JACKSON_KEVIN	STUFFOFIMAGINATION	NULL
21	EVERLY KINGSTON	KINGSEVERLY@GMAIL.COM	SPECIAL AGENT	HOMICIDE BUREAU	KINGSTON_EVERLY	13@ALPHA_EVERLY	NULL
22	ROSA DIAZ	DIAZSGRO@GMAIL.COM	SPECIAL AGENT	HOMICIDE BUREAU	DIAZ_ROSA	AUNTORODIAZ	2023-11-14 11:47:33
23	EVANGELINE BLACK	BLACKEVAN@GMAIL.COM	SPECIAL AGENT	HOMICIDE BUREAU	BLACK_EVANGELINE	BLACKKNOWSNOBOUNDS	NULL
24	OLIVIA BENSON	BEN10LIVIE@GMAIL.COM	SPECIAL AGENT	FINANCIAL CRIMES BUREAU	BENSON_OLIVIA	LIV@10BENSON	NULL
25	AMRITHA ANIL	AMRITHAANIL40305@GMAIL.COM	SPECIAL AGENT	FINANCIAL CRIMES BUREAU	ANIL_AMRITHA	AMMU@134340	2023-11-14 16:29:42
26	ELLIOT STABBLER	STABLERELLIOT@GMAIL.COM	SPECIAL AGENT	FINANCIAL CRIMES BUREAU	STABLER_ELLIOT	STABBYELLI0T	NULL
27	VINCE KORSAK	VINNIE2345@GMAIL.COM	SPECIAL AGENT	FINANCIAL CRIMES BUREAU	KORSAK_VINCE	WINVINNIE	NULL
28	BARRY FROST	FROSTYBARRY@GMAIL.COM	SPECIAL AGENT	FINANCIAL CRIMES BUREAU	FROST_BARRY	FROSTYBARS224	NULL
29	NANCY DREW	DREWNANCY@GMAIL.COM	SPECIAL AGENT	ORGANIZED CRIME BUREAU	DREW_NANCY	TEEN@N@NCY	NULL
30	VERONICA MARS	VMARS@GMAIL.COM	SPECIAL AGENT	ORGANIZED CRIME BUREAU	MARS_VERONICA	PI@NEPTUNE	NULL
31	FRANK HARDY	F.HARDY@GMAIL.COM	SPECIAL AGENT	ORGANIZED CRIME BUREAU	HARDY_FRANK	FR@NK2433	NULL
32	MELISSA REO	MELLIE.R@GMAIL.COM	SPECIAL AGENT	ORGANIZED CRIME BUREAU	REO_MELISSA	LIZZ@RE0	NULL
33	NADINE FERNANDEZ	NADINE.AARDRA.F@GMAIL.COM	SPECIAL AGENT	ORGANIZED CRIME BUREAU	FERNANDEZ_NADINE	NADINE2209AF	NULL
34	JOE HARDY	J.HARDY@GMAIL.COM	SPECIAL AGENT	CYBER CRIMES BUREAU	HARDY_JOE	JOEYHARDY	2023-11-12 20:59:44
35	MARIANNA SIDLEY	SIDLEY_MARIANNA@GMAIL.COM	SPECIAL AGENT	CYBER CRIMES BUREAU	SIDLEY_MARIANNA	M@R1N@S1D	NULL
36	VINCENT D'CRUZ	D'CRUZ.VINNIE@GMAIL.COM	SPECIAL AGENT	CYBER CRIMES BUREAU	D'CRUZ_VINCENT	VINNIECRUZ	NULL
37	MAGGIE BELL	MAGSBELL@GMAIL.COM	SPECIAL AGENT	CYBER CRIMES BUREAU	BELL_MAGGIE	MAGGS@BELLS	NULL
38	ERIN REAGAN	E.REAGAN@GMAIL.COM	SPECIAL AGENT	CYBER CRIMES BUREAU	REAGAN_ERIN	HFJDEJ@REAGAN	2023-11-14 12:27:17
39	KRISTEN VEGA	KKRIS@GMAIL.COM	SENIOR ANALYST	HOMICIDE BUREAU	VEGA_KRISTEN	K_VEGA_KRISTEN	NULL
40	SCOTT FORRESTER	FORESTSCOTT@GMAIL.COM	SENIOR ANALYST	FINANCIAL CRIMES BUREAU	FORRESTER_SCOTT	SCOOTYFOREST	NULL
41	ANDRE RAINES	RAINANDRE@GMAIL.COM	SENIOR ANALYST	ORGANIZED CRIME BUREAU	RAINES_ANDRE	RAINY@NDRE	NULL
42	HANA GIBSON	GIBBSHANA@GMAIL.COM	SENIOR ANALYST	CYBER CRIMES BUREAU	GIBSON_HANA	H@N@&GIBSON	NULL
43	IAN DANIELS	DANNY.IAN@GMAIL.COM	ANALYST	HOMICIDE BUREAU	DANIELS_IAN	DAN_IAN	NULL
44	JAMIE KELLET	KELLET.JAMIE@GMAIL.COM	ANALYST	HOMICIDE BUREAU	KELLET_JAMIE	JAMIEHSCOTT	NULL
45	CAMERON VO	VOCAM@GMAIL.COM	ANALYST	FINANCIAL CRIMES BUREAU	VO_CAMERON	CAMMY!VO#	NULL
46	MEGAN GARRETSON	GARRETMEG@GMAIL.COM	ANALYST	FINANCIAL CRIMES BUREAU	GARRETSON_MEGAN	MEGANGARRET	NULL
47	JUBAL VALENTINE	VALENTINE.J@GMAIL.COM	ANALYST	ORGANIZED CRIME BUREAU	VALENTINE_JUBAL	VALENTIN!JUB@L	NULL
48	ISOBEL CASTILLE	BELLACASTILLE@GMAIL.COM	ANALYST	ORGANIZED CRIME BUREAU	CASTILLE_ISOBEL	ISSYC@ST!LLE	NULL
49	REMY SCOTT	SCOTTYR@GMAIL.COM	ANALYST	CYBER CRIMES BUREAU	SCOTT_REMY	REMITSC0TT	NULL
50	KATRIN JAEGER	J.KATRIN@GMAIL.COM	ANALYST	CYBER CRIMES BUREAU	JAEGER_KATRIN	K@TTYJ@EGER	NULL

50 rows in set (0.00 sec)

SQL Connectivity with Python

SQL databases can be accessed via python to perform various functions. Python needs a MySQL driver to access the MySQL database. In this project, we need to access MySQL databases to verify the user access credentials. We further use the information retrieved from the SQL database to decide what functions apply to the user and restrict the user from perform functions for which they do not have the authority to perform.

userlogin().py

```
import pickle

obj=mysql.connector.connect(\
    host='localhost',
    database='GBI_RECORDS',
    user='root',
    password='SQL@1984')
c=obj.cursor()
q='SELECT FULL_NAME, DESIGNATION, DEPARTMENT FROM USER_LOGIN'
c.execute(q)
l=c.fetchall()

def userlogin():
    global ut
    global user
    Q='SELECT * FROM USER_LOGIN'
    c.execute(Q)
    L=c.fetchall()
    print ("Welcome to the GBI Crime Records Dept.")
    print ("\nDo you wish to continue with authorized login?")
    print ("1. Yes")
    print ("2. No")
    print()
    x=str(input("Enter your choice: "))

    if  x=="2":
        ut='View Only Access'
    elif x=="1":
        for i in range(3):
            flag='not logged in'
            flag2="valid username"
            print('\nYou have',3-i,'attempt(s) to complete your login \n')
            u=str(input("Username: "))
```

```
            for i in L:
                if u in i:
                    break
            else:
                flag2="invalid username"
                print ("Invalid Username!")

            if flag2=="valid username":
                p=str(input("Password: "))
                for i in L:
                    if u==i[5] and p==i[6]:
                        ut='Authorised Access'
                        user=i
                        flag='logged in'
                        break
                else:
                    print('Incorrect Password!')
                if flag=='logged in':
                    q='UPDATE USER_LOGIN SET
LAST_LOGGED_IN=CURRENT_TIMESTAMP WHERE USER_NAME=%s;'
                    c.execute(q,(u,))
                    obj.commit()
                    break
        else:
            print('\nYou have exceeded the number of login attempts
\nRedirecting to View Only Access...\n')
            ut='View Only Access'
    else:
            print("\nInvalid Option")
            print("Auto-Redirecting to View Only Access...\n")
            time.sleep(2)
            ut='View Only Access'
```

Program

Project File.py

```
import mysql.connector
import Crime_Module
import time

Crime_Module.userlogin()
print(Crime_Module.ut)
if Crime_Module.ut=='Authorised Access':
    x=Crime_Module.user[1].title()+', '+Crime_Module.user[3].title()
    print('\nHi',x)
    if Crime_Module.user[7]!=None:
        s=str(Crime_Module.user[7])
        l1=s.split()
        print('Your last login was on ',l1[0],"at",l1[1],'\n')
    else:
        print ("This is your First Login")
    time.sleep(1)
    Crime_Module.aoptions()
else:
    time.sleep(1)
    Crime_Module.goptions()
```

Crime_Module.py

```
import pickle
import mysql.connector
import time

obj=mysql.connector.connect(\
    host='localhost',
    database='GBI_RECORDS',
    user='root',
    password='SQL@1984')
c=obj.cursor()
q='SELECT FULL_NAME, DESIGNATION, DEPARTMENT FROM USER_LOGIN'
c.execute(q)
l=c.fetchall()

d={}
flag="red"
f=open('GBI_Records.dat','rb')
try:
    while True:
        x=pickle.load(f)
        for k in x:
            d[k]=x[k]
except EOFError:
    f.close()


def userlogin():
    global ut
    global user
    Q='SELECT * FROM USER_LOGIN'
    c.execute(Q)
    L=c.fetchall()

    print ("Welcome to the GBI Crime Records Dept.")
    print ("\nDo you wish to continue with authorized login?")
    print ("1. Yes")
    print ("2. No")
    print()
    x=str(input("Enter your choice: "))

    if  x=="2":
        ut='View Only Access'
    elif x=="1":
        for i in range(3):
            flag='not logged in'
            flag2="valid username"
            print('\nYou have',3-i,'attempt(s) to complete your login \n')
            u=str(input("Username: "))

            for i in L:
```

```
                if u in i:
                    break
            else:
                flag2="invalid username"
                print ("Invalid Username!")

            if flag2=="valid username":
                p=str(input("Password: "))
                for i in L:
                    if u==i[5] and p==i[6]:
                        ut='Authorised Access'
                        user=i
                        flag='logged in'
                        break
                else:
                    print('Incorrect Password!')
                if flag=='logged in':
                    q='UPDATE USER_LOGIN SET
LAST_LOGGED_IN=CURRENT_TIMESTAMP WHERE USER_NAME=%s;'
                    c.execute(q,(u,))
                    obj.commit()
                    break
        else:
            print('\nYou have exceeded the number of login attempts
\nRedirecting to View Only Access...\n')
            ut='View Only Access'
    else:
            print("\nInvalid Option")
            print("Auto-Redirecting to View Only Access...\n")
            time.sleep(2)
            ut='View Only Access'

def victim():
  global lv
  lv=[]
  print()
  print('Victim Details')
  lv.append(str(input('Name: ')))
  lv.append(str(input('Age: ')))
  lv.append(str(input('Gender: ')))
  lv.append(str(input('Address: ')))
  lv.append(str(input('Contact: ')))

def crime():
  global ch
  global dets
  print()
  print('Crime Details')
  ch=str(input('Charges Pressed against the Accused: '))
  dets=str(input('Enter the Details of the Crime (Date, Time, Location,
Important Facts) briefly: ')).split(',')

def evidences():
  global de
```

```
  de={}
  lwn=[]
  print()
  print('Evidences')
  el=input('Enter the List of Comparison Samples: ')
  ec=el.split(',')
  if len(ec)==0:
    ec=["Nil"]
  nw=int(input('Enter the no. of Witnesses: '))
  print()
  for i in range(nw):
    lw=[]
    lw.append(str(input('Name: ')))
    lw.append(str(input('Age: ')))
    lw.append(str(input('Gender: ')))
    lw.append(str(input('Address: ')))
    lw.append(str(input('Contact: ')))
    lwn.append(lw)
  if nw==0:
    lwn+=['Nil']
  de['Comparison Samples (Forensic Evidence)']=ec
  de['Witness Details']=lwn

def i_suspects():
  global lsn
  lsn=[]
  print()
  print ("Suspect Details")
  ns=int(input('Enter the no. of Suspects: '))
  for i in range(ns):
    print()
    ls=[]
    ls.append(str(input('Name: ')))
    ls.append(str(input('Age: ')))
    ls.append(str(input('Gender: ')))
    ls.append(str(input('Address: ')))
    ls.append(str(input('Contact: ')))
    lsn.append(ls)
  if ns==0:
    lsn+=['Nil']

def accuse():
  global la
  la=[]
  print()
  print('Accused Details')
  j=input("Has the Accused been Identified? ")
  if "y" in j.lower():
    print()
    x=str(input("Are there Multiple Accused? "))
    if "y" in x.lower():
      n=eval(input("Enter the no. Accused: "))
      for i in range(n):
        print()
```

```
        a=[]
        print ("Enter the Details of Accused no.",i,":")
        a.append(str(input('Name: ')))
        a.append(str(input('Age: ')))
        a.append(str(input('Gender: ')))
        a.append(str(input('Address: ')))
        a.append(str(input('Contact: ')))
        la.apend(a)
    elif "n" in x.lower():
      print()
      print ("Enter the Details")
      la.append(str(input('Name: ')))
      la.append(str(input('Age: ')))
      la.append(str(input('Gender: ')))
      la.append(str(input('Address: ')))
      la.append(str(input('Contact: ')))
    else:
      print ("Enter Yes or No")
      accuse()
  elif "n" in j.lower():
    la=["Nil"]
  else:
    print ("Enter Yes or No")
    accuse()

def multi_an():
    global an
    global dpt
    an=[]
    dal=[]
    for i in l:
        if i[2]==dpt.upper() and "ANALYST" in i[1]:
            dal.append(i[0].title())
    cp=input("Has an Analyst been Assigned? ")
    if "y" in cp.lower():
        print()
        x=str(input("Are there Multiple Analysts? "))
        if "y" in x.lower():
            n=eval(input("Enter the no. analysts: "))
            print()
            i=1
            while i<=n:
                aa= input ("Enter the Name of the Analyst: ")
                if aa in dal:
                    an.append(aa)
                    i+=1
                else:
                    print('Invalid Analyst')
                    print('Select an analyst from the below analyst:')
                    print(dal)
        elif "n" in x.lower():
            aaa=input ("Enter the Name of Ananlyst : ")
            an.append(aaa)
        else:
```

```
            print ("Enter Yes or No")
            multi_an()
    elif "n" in cp.lower():
        an=["Nil"]
    else:
        print ("Enter Yes or No")
        multi_an()

def Valid_IO():
    global dpt
    global ins
    for i in l:
        dl=[]
        if i[2]==dpt and i[1] in ['SPECIAL AGENT, SPECIAL AGENT IN CHARGE,
ASST. SPECIAL AGENT IN CHARGE']:
            dl+=[i[0]]
            ins=str(input('Please Enter the Investigating Officer: '))
            if ins not in dl:
                print('Invalid Investigating Officer')
                print('Select an investigating officer from the below
officers:')
                for k in dl:
                    print(k)
                Valid_IO()

def File():
  global file
  global fileee
  global flag
  print()
  file=input("Enter the File No.: ")
  if file not in d:
    print()
    print ("Invalid File No. ")
    File()
  fileee='valid'
  if user[3] in ['SPECIAL AGENT IN CHARGE','ASST. SPECIAL AGENT IN
CHARGE','SENIOR ANALYST']:
      if d[file]['Department']!=user[4].title():
          print("Access to file denied")
          print("ERROR 404 - Cross Department Access")
          fileee='invalid'
          flag="green"
          aoptions()
  elif user[3] in ['SPECIAL AGENT','ANALYST']:
      if user[1].title() not in d[file]['Investigating Officer'] or
user[1].title not in d[file]['Analyst(s)']:
          print("Unauthorized Access to File")
          print('Access Denied')
          fileee='invalid'
          flag="green"
          aoptions()

def NewCase():
```

```
  global d
  global dpt
  global ins
  global flag
  global an
  flag="red"
  print()
  print('Options: ')
  print('i. Continue')
  print ('ii. Go Back')
  print()
  cp=input('Enter your Choice: ')
  if cp=="i":
      file_id=input("Enter File ID: ")
      if file_id in d:
          print ("File Exists")
          print()
          print ("Do you wish to Update the Details in the File?")
          print('Options: ')
          print('i. Update')
          print ('ii. Go Back')
          print()
          cn=input('Enter your Choice: ')
          if cn=="i":
              update()
          elif cn=="ii":
              flag="green"
              aoptions()
          else:
             NewCase()
      else:
          dpt=str(input("Please Enter the Department Investigating the
Case: "))
          if dpt.upper()==user[4] or user[4]=='N/A':
              victim()
              crime()
              evidences()
              i_suspects()
              accuse()
              print()
              stat=str(input('Status (Ongoing/Solved/Unsolved): '))
              if user[4]=="N/A" or user[3] in ["BUREAU DIRECTOR", "SPECIAL
AGENT IN CHARGE", "ASST. SPECIAL AGENT IN CHARGE"]:
                  Valid_IO()
                  multi_an()
              elif user[3]=="SPECIAL AGENT":
                  ins=user[1].title()
                  multi_an()
              elif user[3]=='SENIOR ANALYST':
                  Valid_IO()
                  multi_an()
              elif i[1]=='ANALYST':
                  Valid_IO()
```

```
                    x=str(input("Are there Multiple Analysts Working with
You? "))
                    if "y" in x.lower():
                        n=eval(input("Enter the no. analysts apart from
yourself: "))
                        print()
                        i=1
                        while i<=n:
                            aa= input ("Enter the Name of the Analyst: ")
                            if aa in dal:
                                an.apend(aa)
                                i+=1
                            else:
                                print('Invalid Analyst')
                                print('Select from the below analysts:')
                                print(dal)
                        an.append(user[1])
                    elif 'n' in x.lower():
                        an.append(i[0])
                    else:
                        print ("Enter a valid option")
                        print ("Re-routing to Start")
                        NewCase()
                d1={'Victim Details':lv,'Charges':ch,'Details of
Crime':dets,'Evidences':de,'Suspect Details':lsn,'Accused
Details':la,'Status':stat,"Department":dpt,"Investigating
Officer":ins,"Analyst(s)":an}
                d[file_id]=d1
                print()
                print("Case Added")
            else:
                print("Access to file denied")
                print("ERROR 404 - Cross Department Access")
                print ("Do you wish to add another case?")
                NewCase()

    elif cp=="ii":
          flag="green"
          aoptions()
    else:
          print ("Invalid Option")
          NewCase()

#Status
def status():
    File()
    if fileee=='valid':
        a=input("Enter the New Status: ")
        d[file]["Status"]=a
        print ("Status Updated")

def asu():
    q=input("Enter your Choice: ")
    if "y" in q.lower():
```

```
    a=input("Enter the New Status: ")
    d[file]["Status"]=a
    print ("Status Updated")
  elif "n" in q.lower():
    pass
  else:
    print ("Invalid Choice")
    print()
    asu()

def ar():
  n=input("Enter the Name: ")
  for i in d[file]["Accused Details"]:
    if n in i:
      d[file]["Accused Details"].remove(i)
      print()
      print ("Accused Removed")
      if len(d[file]["Accused Details"])==0:
        d[file]["Accused Details"]+=["Nil"]
        if d[file]["Status"]=="Solved":
          print ()
          print ("You have 0 accused, would you like to change the status?
")
          asu()
      break
    else:
      print ("Invalid Name")
      ar()

def ueia():
  x=input("Enter the Name of Accused: ").lower()
  print()
  print('Parameters:')
  print('i. Name')
  print('ii. Age')
  print('iii. Gender')
  print('iv. Address')
  print('v. Contact')
  print()
  for i in d[file]["Accused Details"]:
    if i[0].lower()==x:
      c=str(input('Enter your Choice: '))
      if c=="i":
        u=input("Enter the Updated Name: ")
        i[0]=u
        print ("Details Updated")
        break
      elif c=="ii":
        u=input("Enter the Updated Age: ")
        i[1]=u
        print ("Details Updated")
        break
      elif c=="iii":
        u=input("Enter the Updated Gender: ")
```

```
        i[2]=u
        print ("Details Updated")
        break
      elif c=="iv":
        u=input("Enter the Updated Address: ")
        i[3]=u
        print ("Details Updated")
        break
      elif c=="v":
        u=input("Enter the Updated Contact: ")
        i[4]=u
        print ("Details Updated")
        break
      else:
        print ("Invalid Choice")
        ueia()
    else:
      print ("Invalid Name")
      ueia()

#Accused
def accused():
  print()
  print('Parameters: ')
  print('i. Add')
  print('ii. Remove')
  print ('iii. Update Existing Info')
  print('iv. Go Back')
  print()
  c=str(input('Enter your Choice: '))
  File()
  if fileee=='valid':
      l=d[file]["Accused Details"]
  else:
      c='iv'
  if c=="i":
    if l==["Nil"]:
      l.clear()
    print()
    print ("New Accused Details")
    las=[]
    las.append(str(input('Name: ')))
    las.append(str(input('Age: ')))
    las.append(str(input('Gender: ')))
    las.append(str(input('Address: ')))
    las.append(str(input('Contact: ')))
    l.append(las)
    d[file]["Accused Details"]=l
    print()
    print ("New Accused Added")
  elif c=="ii":
    ar()
  elif c=='iii':
    ueia()
```

```
  elif c=="iv":
    update()
  else:
    print ("Invalid Choice")
    accused()

def sur():
  n=input("Enter the Name: ")
  for i in d[file]["Suspect Details"]:
    if n in i:
      d[file]["Suspect Details"].remove(i)
      print()
      print ("Suspect Removed")
      if len(d[file]["Suspect Details"])==0:
        d[file]["Suspect Details"]+=["Nil"]
      break
  else:
      print ("Invalid Name")
      sur()

def ueis():
  x=input("Enter the name of suspect: ").lower()
  print()
  print('Parameters:')
  print('i. Name')
  print('ii. Age')
  print('iii. Gender')
  print('iv. Address')
  print('v. Contact')
  print()
  c=str(input('Enter your Choice: '))
  for i in d[file]["Suspect Details"]:
    if i[0].lower()==x:
      if c=="i":
        u=input("Enter the Updated Name: ")
        i[0]=u
        break
      elif c=="ii":
        u=input("Enter the Updated Age: ")
        i[1]=u
        break
      elif c=="iii":
        u=input("Enter the Updated Gender: ")
        i[2]=u
        break
      elif c=="iv":
        u=input("Enter the Updated Address: ")
        i[3]=u
        break
      elif c=="v":
        u=input("Enter the Updated Contact: ")
        i[4]=u
        break
      else:
```

```
        print ("Invalid Choice")
        ueis()
    else:
      print ("Invalid Name")
      ueis()

#Suspects
def suspects():
  print()
  print('Parameters: ')
  print('i. Add')
  print('ii. Remove')
  print ('iii. Update Existing Info')
  print ('iv. Go Back')
  print()
  c=str(input('Enter your Choice: '))
  File()
  if fileee=='valid':
      l=d[file]["Suspect Details"]
  else:
      c='iv'
  if c=="i":
    if l==[["Nil"]]:
      l.clear()
    print()
    print ("New Suspect Details")
    ls=[]
    ls.append(str(input('Name: ')))
    ls.append(str(input('Age: ')))
    ls.append(str(input('Gender: ')))
    ls.append(str(input('Address: ')))
    ls.append(str(input('Contact: ')))
    l.append(ls)
    d[file]["Suspect Details"]=l
    print()
    print ("New Suspect Added")
  elif c=="ii":
    sur()
  elif c=="iii":
    ueis()
  elif c=="iv":
    update()
  else:
    print ("Invalid Choice")
    suspects()

def sr():
  k=str(input("What sample would you like to remove? "))
  for i in d[file]["Evidences"]["Comparison Samples (Forensic Evidence)"]:
    if k in i:
      d[file]["Evidences"]["Comparison Samples (Forensic
Evidence)"].remove(i)
      print()
      print ("Sample Removed")
```

```
      if len(d[file]["Evidences"]["Comparison Samples (Forensic
Evidence)"])==0:
        d[file]["Evidences"]['Comparison Samples (Forensic
Evidence)']+=["Nil"]
      break
  else:
    print("Invalid Sample")
    sr()

def samples():
  print()
  print('Parameters: ')
  print('i. Add Sample')
  print('ii. Remove Sample')
  print('iii. Go Back')
  print()
  cp=str(input('Enter your Choice: '))
  l=d[file]["Evidences"]['Comparison Samples (Forensic Evidence)']
  if cp=="i":
    if l==["Nil"]:
      l.clear()
    e=input("Enter the Sample: ")
    l.append(e)
    d[file]["Evidences"]["Comparison Samples (Forensic Evidence)"]=l
    print ("New Sample Added")
  elif cp=="ii":
    sr()
  elif c=="iii":
    evidence()
  else:
    print ("Invalid Choice")
    samples()

def wr():
  n=input("Enter the Name: ")
  for i in d[file]["Evidences"]["Witness Details"]:
    if n in i:
      d[file]["Evidences"]["Witness Details"].remove(i)
      print()
      print ("Witness Removed")
      if len(d[file]["Evidences"]["Witness Details"])==0:
        d[file]["Evidences"]["Witness Details"]+=["Nil"]
      break
  else:
    print ("Invalid Name")
    wr()

def ueiw():
  x=input("Enter the Name of Witness: ").lower()
  print()
  print('Parameters:')
  print('i. Name')
  print('ii. Age')
  print('iii. Gender')
```

```
  print('iv. Address')
  print('v. Contact')
  print()
  c=str(input('Enter your Choice: '))
  for i in d[file]["Evidences"]["Witness Details"]:
    if i[0].lower()==x:
      if c=="i":
        u=input("Enter the Updated Name: ")
        i[0]=u
        break
      elif c=="ii":
        u=input("Enter the Updated Age: ")
        i[1]=u
        break
      elif c=="iii":
        u=input("Enter the Updated Gender: ")
        i[2]=u
        break
      elif c=="iv":
        u=input("Enter the Updated Address: ")
        i[3]=u
        break
      elif c=="v":
        u=input("Enter the Updated Contact: ")
        i[4]=u
        break
      else:
        print ("Invalid Choice")
        ueiw()
    else:
      print ("Invalid Name")
      ueiw()

def witnesses():
  print()
  print('Parameters:')
  print('i. Add Witness')
  print('ii. Remove Witness')
  print ("iii. Update Existing Info")
  print('iv. Go Back')
  print()
  cp=str(input('Enter your Choice: '))
  l=d[file]["Evidences"]["Witness Details"]
  if cp=="i":
    if l==[["Nil"]]:
      l.clear()
      print()
    print ("New Witness Details")
    ls=[]
    ls.append(str(input('Name: ')))
    ls.append(str(input('Age: ')))
    ls.append(str(input('Gender: ')))
    ls.append(str(input('Address: ')))
    ls.append(str(input('Contact: ')))
```

```
    l.append(ls)
    print()
    print ("New Witness Added")
  elif cp=="ii":
    wr()
  elif cp=="iii":
    ueiw()
  elif cp=="iv":
    evidence()
  else:
    print ("Invalid Choice")
    witnesses()

#Evidence
def evidence():
  print()
  print('Parameters: ')
  print('i. Comparison Samples')
  print('ii. Witness')
  print('iii. Go Back')
  print()
  c=str(input('Enter your Choice: '))
  File()
  if fileee=='valid':
      if c=="i":
        samples()
      elif c=="ii":
        witnesses()
      elif c=="iii":
        update()
      else:
        print ("Invalid Choice")
        evidence()

def uxdets():
  global flg
  global dpt
  File()
  if fileee=='valid':
      print()
      print('Transfer Ownership: ')
      print('i. Department')
      print('ii. Investigating Officer')
      print('iii. Analyst(s)')
      print('iv. Go Back')
      print()
      if flg==0:
          c=str(input('Enter your Choice: '))
      if c=='i':
          dpt=str(input("Please Enter the Department: "))
          Valid_IO()
          d[file]['Investigating Officer']=ins
          multi_an()
          d[file]['Analyst(s)']=an
```

```
            print ("Case Transferred to Another Department")
        elif c=='ii' or flg==2:
            flg=2
            dl=[]
            for i in l:
                if i[2]==d[file]["Department"].upper() and "AGENT" in i[1]:
                    print (i)
                    dl.append(i[0].title())
            nio=str(input('Enter the New Investigating Officer: '))
            if nio in dl:
                d[file]['Investigating Officer']=nio
            else:
                print('Invalid Officer')
                print('Select Investigating Officer from the Available List
of Officers - ',dl)
                uxdets()
            print ("Investigating Officer Changed")
        elif c=='iii' or flg==3:
            flg=3
            dal=[]
            for i in l:
                if i[2]==d[file]['Department'].upper() and "ANALYST" in
i[1]:
                    dal.append(i[0].title())
            print('All Current Analysts removed \n Enter new analyst(s)
details: \n')
            cp=input("Has a new analyst been Assigned? ")
            if "y" in cp.lower():
                an=[]
                print()
                x=str(input("Are there Multiple Analysts? "))
                if "y" in x.lower():
                    n=eval(input("Enter the no. analysts: "))
                    print()
                    i=1
                    while i<=n:
                        aa= input ("Enter the Name of Analyst: ")
                        if aa in dal:
                            an.append(aa)
                            i+=1
                        else:
                            print('Invalid Analyst')
                    d[file]['Analyst(s)']=an
                elif "n" in x.lower():
                    aaa=input ("Enter the Name of Analyst : ")
                    an.append(aaa)
                    d[file]['Analyst(s)']=an
                else:
                    print ("Enter Yes or No")
                    uxdets()
            elif "n" in j.lower():
                an=["Nil"]
                print ("Analyst Details Changed")
            else:
```

```
                print ("Enter Yes or No")
                uxdets()
        elif c=="iv":
          update()
        else:
          print("Invalid Choice")
          uxdets()

def update():
    global flag
    flag="red"
    print()
    print('Parameters :')
    print('i. Status')
    print('ii. Accused')
    print('iii. Suspects')
    print('iv. Evidence')
    print('v. Transfer Case')
    print('vi. Go Back')
    print()
    c=str(input('Enter your Choice: '))
    if c=="i":
        status()
    elif c=="ii":
        accused()
    elif c=="iii":
        suspects()
    elif c=="iv":
        evidence()
    elif c=='v':
        global flg
        flg=0
        uxdets()
    elif c=='vi':
        flag="green"
        aoptions()
    else:
        print ("Invalid Choice")
        update()

#History
def history():
  global ut
  global flag
  flag="red"
  print()
  print('Options: ')
  print('i. Continue')
  print ('ii. Go Back')
  print()
  cp=input('Enter your Choice: ')
  if cp=="i":
      criminal=str(input('Enter Name of Criminal: ')).title()
      c=0
```

```
      for k in d:
        for w in d[k]['Accused Details']:
          if criminal in w[0].title():
            print()
            print("File No.:",k)
            for j in d[k]:
              print(j,":",d[k][j],end="\n")
            c+=1
      else:
        if c==0:
          print('All Clear')
  elif cp=="ii":
    if ut=="Authorised Access":
        aoptions()
        flag="green"
    else:
        goptions()
        flag="green"
  else:
    print ("Invalid Option")
    history()

#Similar
def similar():
  global flag
  flag="red"
  simc=0
  print()
  print('Parameters:')
  print('i. Charges')
  print('ii. Details')
  print('iii. Evidence')
  print ('iv. Go Back')
  print()
  cp=input('Enter your choice - ')
  if cp=="i":
    c=str(input('Enter charges - '))
    p=c.lower()
    for k in d:
      if d[k]['Charges'].lower()==p:
        print()
        simc+=1
        print("File No.:",k)
        for j in d[k]:
          print(j,":",d[k][j],end="\n")
    else:
        if simc==0:
            print('No existing cases matches')
  elif cp=="ii":
    dt=str(input('Enter the Details of Crime (Date, Time, Location,
Important Facts) briefly: ')).lower()
    x=dt.split(",")
    for k in d:
        for y in d[k]['Details of Crime']:
```

```
            if y.lower() in x:
                simc+=1
                print()
                print("File No.:",k)
                for j in d[k]:
                    print(j,":",d[k][j],end="\n")
                break
    else:
        if simc==0:
            print('No existing cases matches')
  elif cp=="iii":
    print()
    print('Parameters - ')
    print('i. Comparison Samples')
    print('ii. Witness')
    print('iii. Go Back')
    print()
    c=str(input('Enter your Choice: '))
    if c=="i":
        el_=str(input('Enter Comparison Sample: '))
        for k in d:
            for y in d[k]['Evidences']['Comparison Samples (Forensic
Evidence)']:
              if el_==y:
                print()
                simc+=1
                print("File No.:",k)
                for j in d[k]:
                  print(j,":",d[k][j],end="\n")
              break
        else:
            if simc==0:
                print('No existing cases matches')
    elif c=="ii":
        wl_=str(input('Enter Witness Name: '))
        for k in d:
            for y in d[k]['Evidences']['Witness Details']:
              for l in y:
                  if wl_==y[0]:
                    print()
                    print("File No.:",k)
                    for j in d[k]:
                      print(j,":",d[k][j],end="\n")
                      simc+=1
                    break
        else:
            if simc==0:
                print('No existing cases matches')
    elif c=="iii":
        similar()
    else:
        print ("Invalid Choice")
        similar()
```

```
  elif cp=='iv':
    if ut=="Authorised Access":
        aoptions()
        flag="green"
    else:
        goptions()
        flag="green"
  else:
    print ("Invalid Choice")
    print()
    similar()

def Fno():
  f=str(input("Enter the file no.: "))
  for i in d:
    if i==f:
      print()
      print("File No.:",i)
      for j in d[i]:
        print(j,":",d[i][j],end="\n")
      break
  else:
    print("Invalid File No.")
    Fno()

#Display()

def adispalystatus():
    global flag
    flag="red"
    print()
    print('Parameters: ')
    print('i. Ongoing')
    print('ii. Solved')
    print('iii. Unsolved')
    print ('iv. Go Back')
    print()
    cp=str(input('Enter your Choice: '))
    if cp=='i':
        c=0
        for i in d:
          if d[i]["Status"].lower()=="ongoing":
            c+=1
            print()
            print("File No.:",i)
            for j in d[i]:
              print(j,":",d[i][j],end="\n")
        else:
          if c==0:
            print ("No Ongoing Cases")
    elif cp=='ii':
        c=0
        for i in d:
          if d[i]["Status"].lower()=="solved":
```

```
            c+=1
            print()
            print("File No.:",i)
            for j in d[i]:
              print(j,":",d[i][j],end="\n")
        else:
          if c==0:
            print ("No Solved Cases")
    elif cp=="iii":
        c=0
        for i in d:
          if d[i]["Status"].lower()=="unsolved":
            c+=1
            print()
            print("File No.:",i)
            for j in d[i]:
              print(j,":",d[i][j],end="\n")
        else:
          if c==0:
            print ("No Unsolved Cases")
    elif cp=="iv":
          flag="green"
          adisplay()
    else:
          print ("Invalid Option")
          adispalystatus()

def AllCaseDpt():
    global flag
    global user
    flag="red"
    print()
    print('Parameters: ')
    print('i. Your Department')
    print('ii. Other Department')
    print ('iii. Go Back')
    print()
    ch=str(input('Enter your Choice: '))
    if ch=="i":
        c=0
        for i in d:
            if d[i]["Department"].upper()==user[4]:
                c+=1
                print()
                print("File No.:",i)
                for j in d[i]:
                    print(j,":",d[i][j],end="\n")
        else:
            if c==0:
                print ("No Cases Exist in Your Deaprtment")
    elif ch=="ii":
           print()
           dpt=str(input("Enter the Department: "))
           c=0
```

```
            for i in d:
               if d[i]["Department"].upper()==dpt.upper():
                   c+=1
                   print()
                   print("File No.:",i)
                   for j in d[i]:
                       print(j,":",d[i][j],end="\n")
            else:
                 if c==0:
                    print ("No Cases Exist in the",dpt)
    elif ch=="iii":
        flag='green'
        adisplaydpt()
    else:
           AllCaseDpt()

def adisplaydpt():
  global flag
  global user
  flag="red"
  print()
  print('Parameters: ')
  print('i. All Cases in A Department')
  print('ii. Specifc Investigating Officer')
  print ('iii. Go Back')
  print()
  cp=str(input('Enter your Choice: '))
  if cp=="i":
       AllCaseDpt()
  elif cp=="ii":
      print()
      ins=str(input("Enter the Investigating Offcier: "))
      c=0
      for i in d:
          if d[i]["Investigating Officer"].upper()==ins.upper():
              c+=1
              print()
              print("File No.:",i)
              for j in d[i]:
                  print(j,":",d[i][j],end="\n")
      else:
          if c==0:
              print (ins,"is not the investigating officer of any case")
  elif cp=="iii":
      flag='green'
      adisplay()
  else:
      print ("Invalid Option")
      adisplaydpt()

def adisplay():
  global flag
  flag="red"
  print()
```

```
  print('Parameters: ')
  print('i. File No.')
  print('ii. Status')
  print('iii. Department')
  print ('iv. All Cases')
  print ('v. My Cases')
  print ('vi. Go Back')
  print()
  cp=str(input('Enter your Choice: '))
  if cp=='i':
    Fno()
  elif cp=="ii":
    adispalystatus()
  elif cp=="iii":
    adisplaydpt()
  elif cp=="iv":
      for i in d:
          print()
          print("File No.:",i)
          for j in d[i]:
              print(j,":",d[i][j],end="\n")
  elif cp=="v":
    c=0
    if 'ANALYST' not in user[3]:
        for i in d:
          if d[i]["Investigating Officer"].upper()==user[1]:
              c+=1
              print()
              print("File No.:",i)
              for j in d[i]:
                print (j,":",d[i][j], end="\n")
        else:
           if c==0:
               print ("You currently have 0 cases registered.")
    elif 'ANALYST' in user[3]:
        for i in d:
           for j in d[i]["Analyst(s)"]:
               if j==user[1]:
                   c+=1
                   print()
                   print("File No.:",i)
                   for k in d[i]:
                       print (k,":",d[i][k], end="\n")
        else:
           if c==0:
               print ("You currently have 0 cases registered.")
  elif cp=="vi":
    aoptions()
  else:
    print ("Invalid Choice")
    adisplay()

def gdispalystatus():
    global flag
```

```
    flag="red"
    print()
    print('Parameters: ')
    print('i. Ongoing')
    print('ii. Solved')
    print('iii. Unsolved')
    print ('iv. Go Back')
    print()
    cp=str(input('Enter your Choice: '))
    if cp=='i':
        c=0
        for i in d:
          if d[i]["Status"].lower()=="ongoing":
            c+=1
            print()
            print("File No.:",i)
            for j in d[i]:
              print(j,":",d[i][j],end="\n")
        else:
          if c==0:
            print ("No Ongoing Cases")
    elif cp=='ii':
        c=0
        for i in d:
          if d[i]["Status"].lower()=="solved":
            c+=1
            print()
            print("File No.:",i)
            for j in d[i]:
              print(j,":",d[i][j],end="\n")
        else:
          if c==0:
            print ("No Solved Cases")
    elif cp=="iii":
        c=0
        for i in d:
          if d[i]["Status"].lower()=="unsolved":
            c+=1
            print()
            print("File No.:",i)
            for j in d[i]:
              print(j,":",d[i][j],end="\n")
        else:
          if c==0:
            print ("No Unsolved Cases")
    elif cp=="iv":
        flag="green"
        gdisplay()
    else:
        print ("Invalid Option")
        gdispalystatus()

def gdisplaydpt():
  global flag
```

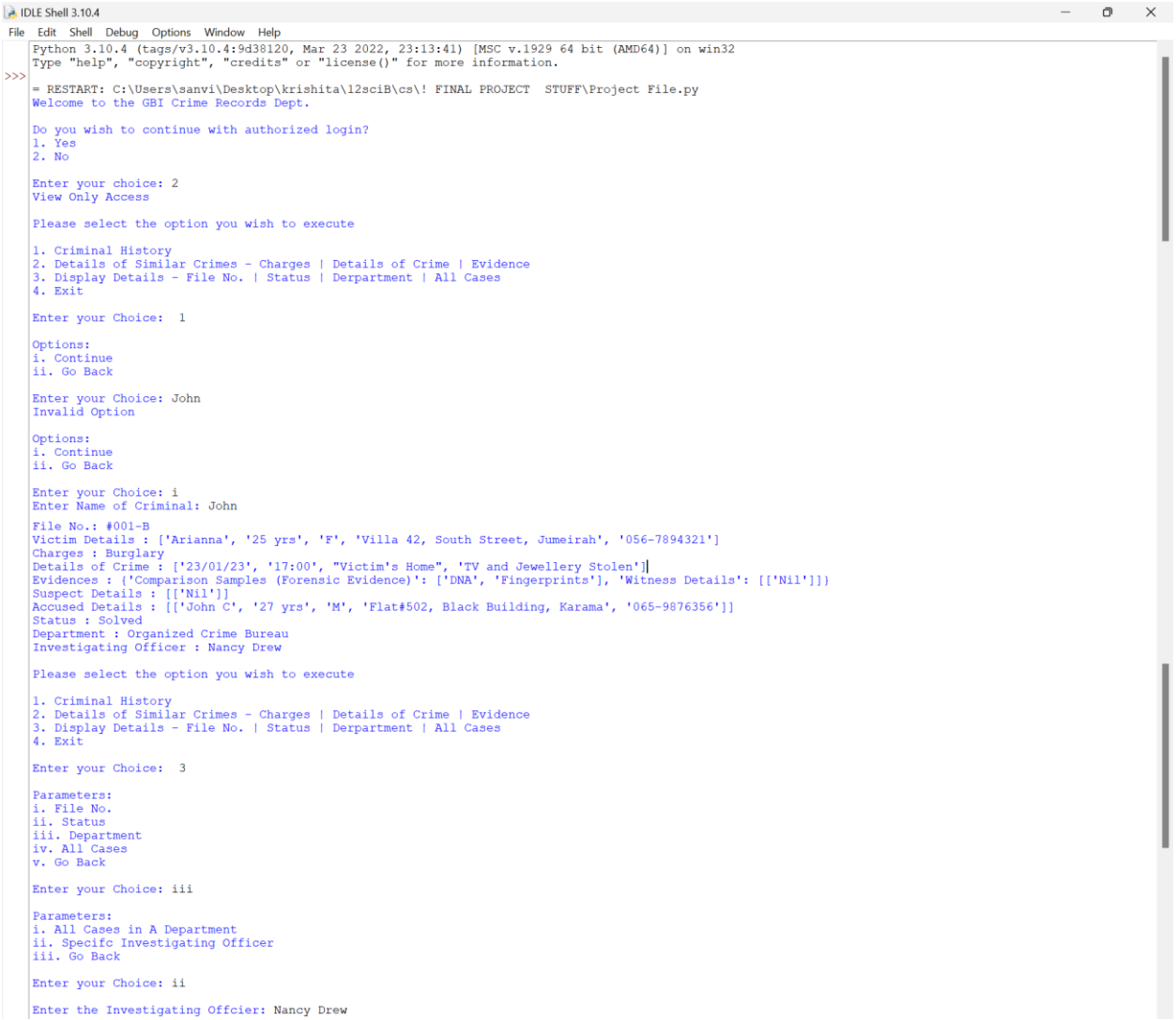
```
  global user
  flag="red"
  print()
  print('Parameters: ')
  print('i. All Cases in A Department')
  print('ii. Specifc Investigating Officer')
  print ('iii. Go Back')
  print()
  cp=str(input('Enter your Choice: '))
  if cp=="i":
      print()
      dpt=str(input("Enter the Department: "))
      c=0
      for i in d:
          if d[i]["Department"].upper()==dpt.upper():
              c+=1
              print()
              print("File No.:",i)
              for j in d[i]:
                  print(j,":",d[i][j],end="\n")
      else:
          if c==0:
              print (ins,"is not investigating any case")
  elif cp=="ii":
      print()
      ins=str(input("Enter the Investigating Offcier: "))
      c=0
      for i in d:
          if d[i]["Investigating Officer"].upper()==ins.upper():
              c+=1
              print()
              print("File No.:",i)
              for j in d[i]:
                  print(j,":",d[i][j],end="\n")
      else:
          if c==0:
              print (ins,"is not the investigating officer of any case")
  elif cp=="iii":
      flag='green'
      gdisplay()
  else:
      print ("Invalid Option")
      gdisplaydpt()

def gdisplay():
  global flag
  flag="red"
  print()
  print('Parameters: ')
  print('i. File No.')
  print('ii. Status')
  print('iii. Department')
  print ('iv. All Cases')
  print ('v. Go Back')
```

```
  print()
  cp=str(input('Enter your Choice: '))
  if cp=='i':
    Fno()
  elif cp=="ii":
    gdispalystatus()
  elif cp=="iii":
    gdisplaydpt()
  elif cp=="iv":
      for i in d:
          print()
          print("File No.:",i)
          for j in d[i]:
              print(j,":",d[i][j],end="\n")
  elif cp=="v":
    goptions()
  else:
    print ("Invalid Choice")
    gdisplay()

def updateinfile():
    f=open('GBI_Records.dat','wb+')
    for k in d:
        x={}
        x[k]=d[k]
        pickle.dump(x,f)
    f.close()

def aoptions():
  global flag
  while True:
    print()
    print ("Please select the option you wish to execute")
    print()
    print('1. Update - Status | Accused | Suspects | Evidence | Case
Handlers')
    print('2. Criminal History')
    print('3. Details of Similar Crimes - Charges | Details of Crime |
Evidence')
    print('4. Add New Case')
    print('5. Display Details - File No. | Status | Department | All Cases
| My Cases')
    print('6. Exit')
    print()
    c=str(input('Enter your Choice:  '))
    if c=="1":
        update()
        updateinfile()
        if flag=="green":
            break
    elif c=="2":
        history()
        if flag=="green":
            break
```

```
    elif c=="3":
        similar()
        if flag=="green":
            break
    elif c=="4":
        NewCase()
        updateinfile()
        if flag=="green":
            break
    elif c=="5":
        adisplay()
        if flag=="green":
            break
    elif c=="6":
        print ("Logging Out...")
        print("Exiting Database")
        break
    else:
      print("Invalid Option")
      aoptions()

def goptions():
  global flag
  flag="red"
  while True:
    print()
    print ("Please select the option you wish to execute")
    print()
    print('1. Criminal History')
    print('2. Details of Similar Crimes - Charges | Details of Crime |
Evidence')
    print('3. Display Details - File No. | Status | Derpartment | All
Cases')
    print('4. Exit')
    print()
    c=str(input('Enter your Choice:  '))
    if c=="1":
        history()
        if flag=="green":
            break
    elif c=="2":
        similar()
        if flag=="green":
            break
    elif c=="3":
        gdisplay()
        if flag=="green":
            break
    elif c=="4":
        print ("Exiting Database")
        break
    else:
      print("Invalid Option")
      goptions()
```

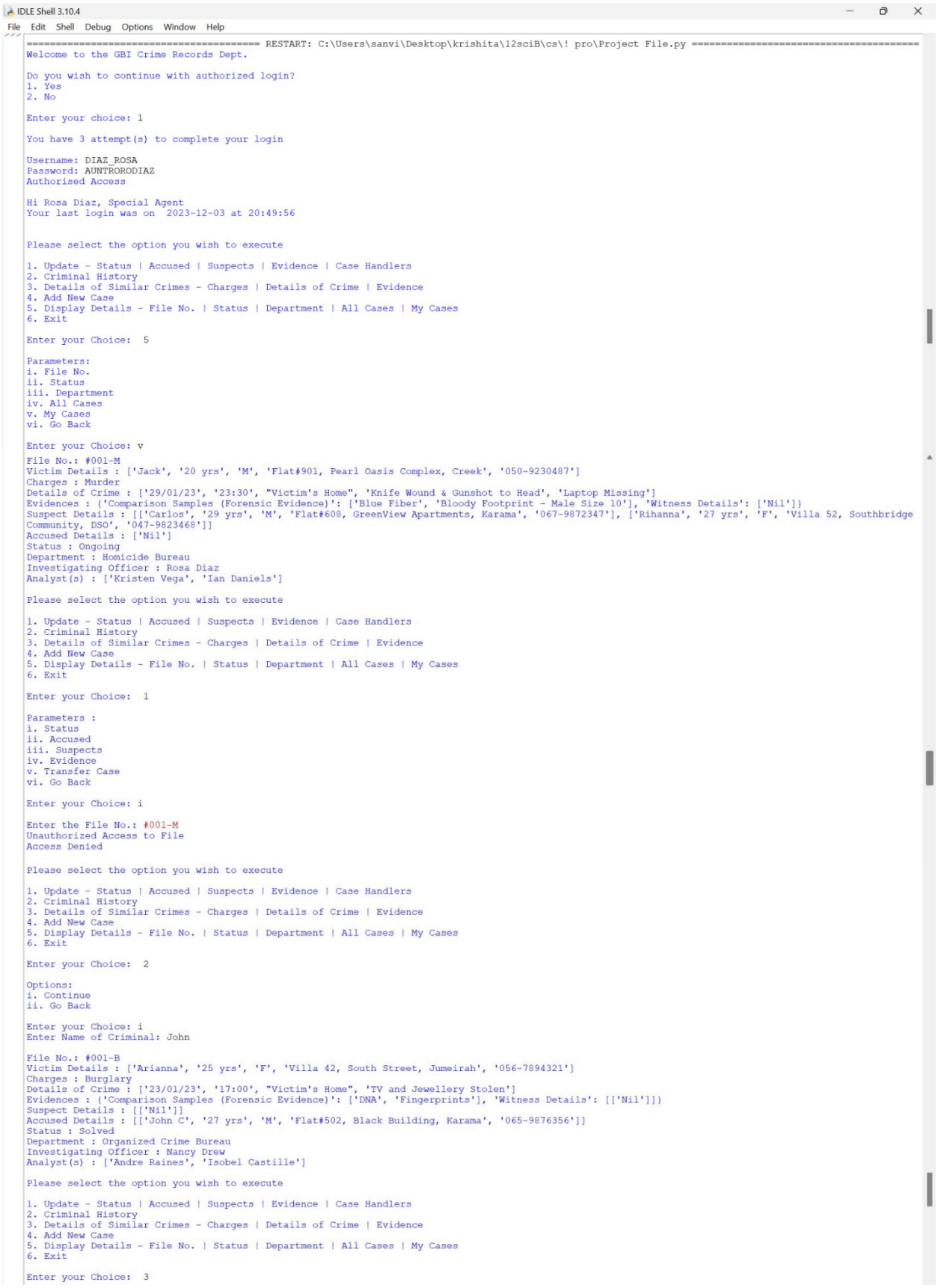
Output

Project File.py



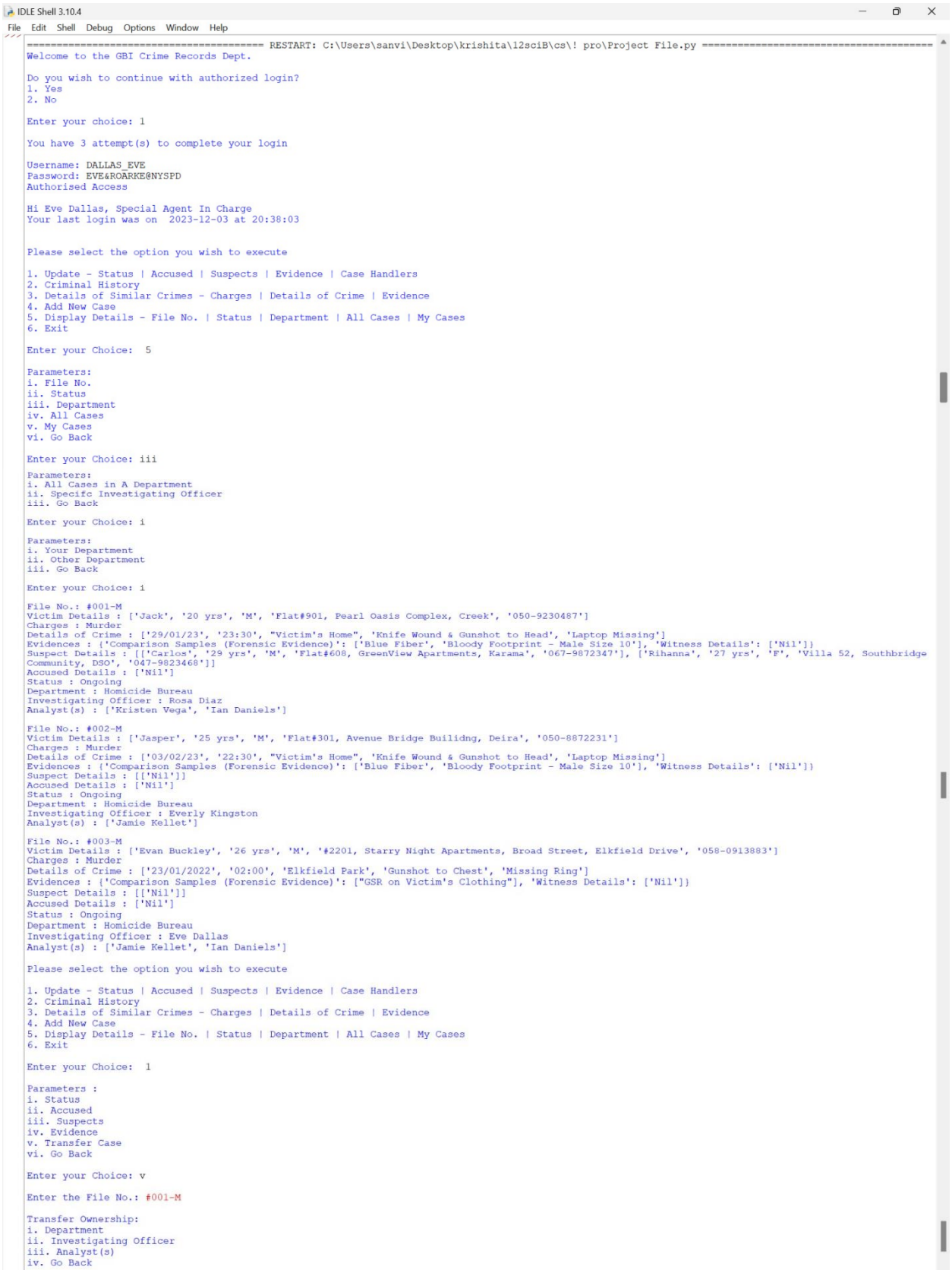
```
Enter the Investigating Offcier: Nancy Drew

File No.: #001-B
Victim Details : ['Arianna', '25 yrs', 'F', 'Villa 42, South Street, Jumeirah', '056-7894321']
Charges : Burglary
Details of Crime : ['23/01/23', '17:00', "Victim's Home", 'TV and Jewellery Stolen']
Evidences : {'Comparison Samples (Forensic Evidence)': ['DNA', 'Fingerprints'], 'Witness Details': [['Nil']]}
Suspect Details : [['Nil']]
Accused Details : [['John C', '27 yrs', 'M', 'Flat#502, Black Building, Karama', '065-9876356']]
Status : Solved
Department : Organized Crime Bureau
Investigating Officer : Nancy Drew

Please select the option you wish to execute

1. Criminal History
2. Details of Similar Crimes - Charges | Details of Crime | Evidence
3. Display Details - File No. | Status | Derpartment | All Cases
4. Exit

Enter your Choice:  2

Parameters:
i. Charges
ii. Details
iii. Evidence
iv. Go Back

Enter your choice - i
Enter charges - Assault

File No.: #001-A
Victim Details : ['Mairah', '21 yrs', 'F', 'Villa 55, Stoneybridge Premium Villas, JVC', '055-0900213']
Charges : Assault
Details of Crime : ['30/01/23', '21:00', 'Neighbourhood Park', 'Blow to the Head', 'Stolen Purse and Diamond Bracelet']
Evidences : {'Comparison Samples (Forensic Evidence)': [''], 'Witness Details': [['Lana J', '29 yrs', 'F', 'Room 2987, Green Time Hotel Apartments, Dubai
Marina', '065-9903218'], ['Amira', '21 yrs', 'F', 'Villa 57, JBR Beach, Jumeirah', '076-9870273']]}
Suspect Details : [['Nil']]
Accused Details : ['Nil']
Status : Ongoing
Department : Organized Crime Bureau
Investigating Officer : Frank Hardy

Please select the option you wish to execute

1. Criminal History
2. Details of Similar Crimes - Charges | Details of Crime | Evidence
3. Display Details - File No. | Status | Derpartment | All Cases
4. Exit

Enter your Choice:  4
Exiting Database
>>>
```

Ln: 40 Col: 84



```
IDLE Shell 3.10.4
File  Edit  Shell  Debug  Options  Window  Help
========== RESTART: C:\Users\sanvi\Desktop\krishita\12sciB\cs\! pro\Project File.py ==========
Welcome to the GBI Crime Records Dept.

Do you wish to continue with authorized login?
1. Yes
2. No

Enter your choice: 1

You have 3 attempt(s) to complete your login

Username: DIAZ_ROSA
Password: AUNTRORODIAZ
Authorised Access

Hi Rosa Diaz, Special Agent
Your last login was on  2023-12-03 at 20:49:56


Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  5

Parameters:
i. File No.
ii. Status
iii. Department
iv. All Cases
v. My Cases
vi. Go Back

Enter your Choice: v
File No.: #001-M
Victim Details : ['Jack', '20 yrs', 'M', 'Flat#901, Pearl Oasis Complex, Creek', '050-9230487']
Charges : Murder
Details of Crime : ['29/01/23', '23:30', "Victim's Home", 'Knife Wound & Gunshot to Head', 'Laptop Missing']
Evidences : {'Comparison Samples (Forensic Evidence)': ['Blue Fiber', 'Bloody Footprint - Male Size 10'], 'Witness Details': ['Nil']}
Suspect Details : [['Carlos', '29 yrs', 'M', 'Flat#608, GreenView Apartments, Karama', '067-9872347'], ['Rihanna', '27 yrs', 'F', 'Villa 52, Southbridge
Community, DSO', '047-9823468']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Rosa Diaz
Analyst(s) : ['Kristen Vega', 'Ian Daniels']

Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  1

Parameters :
i. Status
ii. Accused
iii. Suspects
iv. Evidence
v. Transfer Case
vi. Go Back

Enter your Choice: i

Enter the File No.: #001-M
Unauthorized Access to File
Access Denied

Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  2

Options:
i. Continue
ii. Go Back

Enter your Choice: i
Enter Name of Criminal: John

File No.: #001-B
Victim Details : ['Arianna', '25 yrs', 'F', 'Villa 42, South Street, Jumeirah', '056-7894321']
Charges : Burglary
Details of Crime : ['23/01/23', '17:00', "Victim's Home", 'TV and Jewellery Stolen']
Evidences : {'Comparison Samples (Forensic Evidence)': ['DNA', 'Fingerprints'], 'Witness Details': [['Nil']]}
Suspect Details : [['Nil']]
Accused Details : [['John C', '27 yrs', 'M', 'Flat#502, Black Building, Karama', '065-9876356']]
Status : Solved
Department : Organized Crime Bureau
Investigating Officer : Nancy Drew
Analyst(s) : ['Andre Raines', 'Isobel Castille']

Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  3
```

```
Parameters:
i. Charges
ii. Details
iii. Evidence
iv. Go Back

Enter your choice - i
Enter charges - Murder

File No.: #001-M
Victim Details : ['Jack', '20 yrs', 'M', 'Flat#901, Pearl Oasis Complex, Creek', '050-9230487']
Charges : Murder
Details of Crime : ['29/01/23', '23:30', "Victim's Home", 'Knife Wound & Gunshot to Head', 'Laptop Missing']
Evidences : {'Comparison Samples (Forensic Evidence)': ['Blue Fiber', 'Bloody Footprint - Male Size 10'], 'Witness Details': ['Nil']}
Suspect Details : [['Carlos', '29 yrs', 'M', 'Flat#608, GreenView Apartments, Karama', '067-9872347'], ['Rihanna', '27 yrs', 'F', 'Villa 52, Southbridge
Community, DSO', '047-9823468']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Rosa Diaz
Analyst(s) : ['Kristen Vega', 'Ian Daniels']

File No.: #002-M
Victim Details : ['Jasper', '25 yrs', 'M', 'Flat#301, Avenue Bridge Builidng, Deira', '050-8872231']
Charges : Murder
Details of Crime : ['03/02/23', '22:30', "Victim's Home", 'Knife Wound & Gunshot to Head', 'Laptop Missing']
Evidences : {'Comparison Samples (Forensic Evidence)': ['Blue Fiber', 'Bloody Footprint - Male Size 10'], 'Witness Details': ['Nil']}
Suspect Details : [['Nil']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Everly Kingston
Analyst(s) : ['Jamie Kellet']

File No.: #003-M
Victim Details : ['Evan Buckley', '26 yrs', 'M', '#2201, Starry Night Apartments, Broad Street, Elkfield Drive', '058-0913883']
Charges : Murder
Details of Crime : ['23/01/2022', '02:00', 'Elkfield Park', 'Gunshot to Chest', 'Missing Ring']
Evidences : {'Comparison Samples (Forensic Evidence)': ["GSR on Victim's Clothing"], 'Witness Details': ['Nil']}
Suspect Details : [['Nil']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Eve Dallas
Analyst(s) : ['Jamie Kellet', 'Ian Daniels']

Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  5

Parameters:
i. File No.
ii. Status
iii. Department
iv. All Cases
v. My Cases
vi. Go Back

Enter your Choice: iii

Parameters:
i. All Cases in A Department
ii. Specifc Investigating Officer
iii. Go Back

Enter your Choice: i

Parameters:
i. Your Department
ii. Other Department
iii. Go Back

Enter your Choice: i

File No.: #001-M
Victim Details : ['Jack', '20 yrs', 'M', 'Flat#901, Pearl Oasis Complex, Creek', '050-9230487']
Charges : Murder
Details of Crime : ['29/01/23', '23:30', "Victim's Home", 'Knife Wound & Gunshot to Head', 'Laptop Missing']
Evidences : {'Comparison Samples (Forensic Evidence)': ['Blue Fiber', 'Bloody Footprint - Male Size 10'], 'Witness Details': ['Nil']}
Suspect Details : [['Carlos', '29 yrs', 'M', 'Flat#608, GreenView Apartments, Karama', '067-9872347'], ['Rihanna', '27 yrs', 'F', 'Villa 52, Southbridge
Community, DSO', '047-9823468']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Rosa Diaz
Analyst(s) : ['Kristen Vega', 'Ian Daniels']

File No.: #002-M
Victim Details : ['Jasper', '25 yrs', 'M', 'Flat#301, Avenue Bridge Builidng, Deira', '050-8872231']
Charges : Murder
Details of Crime : ['03/02/23', '22:30', "Victim's Home", 'Knife Wound & Gunshot to Head', 'Laptop Missing']
Evidences : {'Comparison Samples (Forensic Evidence)': ['Blue Fiber', 'Bloody Footprint - Male Size 10'], 'Witness Details': ['Nil']}
Suspect Details : [['Nil']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Everly Kingston
Analyst(s) : ['Jamie Kellet']

File No.: #003-M
Victim Details : ['Evan Buckley', '26 yrs', 'M', '#2201, Starry Night Apartments, Broad Street, Elkfield Drive', '058-0913883']
Charges : Murder
Details of Crime : ['23/01/2022', '02:00', 'Elkfield Park', 'Gunshot to Chest', 'Missing Ring']
Evidences : {'Comparison Samples (Forensic Evidence)': ["GSR on Victim's Clothing"], 'Witness Details': ['Nil']}
Suspect Details : [['Nil']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Eve Dallas
Analyst(s) : ['Jamie Kellet', 'Ian Daniels']

Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  6
Logging Out...
Exiting Database
>>>
```


IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help
========== RESTART: C:\Users\sanvi\Desktop\krishita\12sciB\cs\! pro\Project File.py ==========
Welcome to the GBI Crime Records Dept.
Do you wish to continue with authorized login?
1. Yes
2. No
Enter your choice: 1
You have 3 attempt(s) to complete your login
Username: DALLAS_EVE
Password: EVE&ROARKE@NYSPD
Authorised Access
Hi Eve Dallas, Special Agent In Charge
Your last login was on 2023-12-03 at 20:38:03
Please select the option you wish to execute
1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit
Enter your Choice: 5
Parameters:
i. File No.
ii. Status
iii. Department
iv. All Cases
v. My Cases
vi. Go Back
Enter your Choice: iii
Parameters:
i. All Cases in A Department
ii. Specifc Investigating Officer
iii. Go Back
Enter your Choice: i
Parameters:
i. Your Department
ii. Other Department
iii. Go Back
Enter your Choice: i
File No.: #001-M
Victim Details : ['Jack', '20 yrs', 'M', 'Flat#901, Pearl Oasis Complex, Creek', '050-9230487']
Charges : Murder
Details of Crime : ['29/01/23', '23:30', "Victim's Home", 'Knife Wound & Gunshot to Head', 'Laptop Missing']
Evidences : {'Comparison Samples (Forensic Evidence)': ['Blue Fiber', 'Bloody Footprint - Male Size 10'], 'Witness Details': ['Nil']}
Suspect Details : [['Carlos', '29 yrs', 'M', 'Flat#608, GreenView Apartments, Karama', '067-9872347'], ['Rihanna', '27 yrs', 'F', 'Villa 52, Southbridge Community, DSO', '047-9823468']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Rosa Diaz
Analyst(s) : ['Kristen Vega', 'Ian Daniels']
File No.: #002-M
Victim Details : ['Jasper', '25 yrs', 'M', 'Flat#301, Avenue Bridge Buildng, Deira', '050-8872231']
Charges : Murder
Details of Crime : ['03/02/23', '22:30', "Victim's Home", 'Knife Wound & Gunshot to Head', 'Laptop Missing']
Evidences : {'Comparison Samples (Forensic Evidence)': ['Blue Fiber', 'Bloody Footprint - Male Size 10'], 'Witness Details': ['Nil']}
Suspect Details : [['Nil']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Everly Kingston
Analyst(s) : ['Jamie Kellet']
File No.: #003-M
Victim Details : ['Evan Buckley', '26 yrs', 'M', '#2201, Starry Night Apartments, Broad Street, Elkfield Drive', '058-0913883']
Charges : Murder
Details of Crime : ['23/01/2022', '02:00', 'Elkfield Park', 'Gunshot to Chest', 'Missing Ring']
Evidences : {'Comparison Samples (Forensic Evidence)': ["GSR on Victim's Clothing"], 'Witness Details': ['Nil']}
Suspect Details : [['Nil']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Eve Dallas
Analyst(s) : ['Jamie Kellet', 'Ian Daniels']
Please select the option you wish to execute
1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit
Enter your Choice: 1
Parameters :
i. Status
ii. Accused
iii. Suspects
iv. Evidence
v. Transfer Case
vi. Go Back
Enter your Choice: v
Enter the File No.: #001-M
Transfer Ownership:
i. Department
ii. Investigating Officer
iii. Analyst(s)
iv. Go Back

```
Enter your Choice: ii
('EVE DALLAS', 'SPECIAL AGENT IN CHARGE', 'HOMICIDE BUREAU')
('ALEXANDER PERRO', 'ASST. SPECIAL AGENT IN CHARGE', 'HOMICIDE BUREAU')
('DIANA PRINCE', 'SPECIAL AGENT', 'HOMICIDE BUREAU')
('KEVIN JACKSON', 'SPECIAL AGENT', 'HOMICIDE BUREAU')
('EVERLY KINGSTON', 'SPECIAL AGENT', 'HOMICIDE BUREAU')
('ROSA DIAZ', 'SPECIAL AGENT', 'HOMICIDE BUREAU')
('EVANGELINE BLACK', 'SPECIAL AGENT', 'HOMICIDE BUREAU')
Enter the New Investigating Officer: Diana Prince
Investigating Officer Changed

Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  4

Options:
i. Continue
ii. Go Back

Enter your Choice: ii

Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  5
Parameters:
i. File No.
ii. Status
iii. Department
iv. All Cases
v. My Cases
vi. Go Back

Enter your Choice: i
Enter the file no.: #001-M

File No.: #001-M
Victim Details : ['Jack', '20 yrs', 'M', 'Flat#901, Pearl Oasis Complex, Creek', '050-9230487']
Charges : Murder
Details of Crime : ['29/01/23', '23:30', "Victim's Home", 'Knife Wound & Gunshot to Head', 'Laptop Missing']
Evidences : {'Comparison Samples (Forensic Evidence)': ['Blue Fiber', 'Bloody Footprint - Male Size 10'], 'Witness Details': ['Nil']}
Suspect Details : [['Carlos', '29 yrs', 'M', 'Flat#608, GreenView Apartments, Karama', '067-9872347'], ['Rihanna', '27 yrs', 'F', 'Villa 52, Southbridge
Community, DSO', '047-9823468']]
Accused Details : ['Nil']
Status : Ongoing
Department : Homicide Bureau
Investigating Officer : Diana Prince
Analyst(s) : ['Kristen Vega', 'Ian Daniels']

Please select the option you wish to execute

1. Update - Status | Accused | Suspects | Evidence | Case Handlers
2. Criminal History
3. Details of Similar Crimes - Charges | Details of Crime | Evidence
4. Add New Case
5. Display Details - File No. | Status | Department | All Cases | My Cases
6. Exit

Enter your Choice:  6
Logging Out...
Exiting Database
```

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