

Coding Challenge - Crime Analysis and Reporting System (C.A.R.S.)

Schema Design:

Victims Table:

Results		Messages				
	VictimID	FirstName	LastName	DateOfBirth	Gender	ContactInformation
1	1	John	Doe	1990-01-01	Male	john.doe@example.com
2	2	Jane	Smith	1985-02-02	Female	jane.smith@example.com
3	3	Michael	Johnson	1975-03-03	Male	michael.johnson@example.com
4	4	Emily	Davis	1980-04-04	Female	emily.davis@example.com
5	5	Chris	Brown	1995-05-05	Male	chris.brown@example.com
6	6	Anna	Taylor	1987-06-06	Female	anna.taylor@example.com
7	7	David	Martinez	1992-07-07	Male	david.martinez@example.com
8	8	Laura	Wilson	1988-08-08	Female	laura.wilson@example.com

Suspects Table:

Results		Messages				
	SuspectID	FirstName	LastName	DateOfBirth	Gender	ContactInformation
1	1	Tom	Miller	1980-01-01	Male	tom.miller@example.com
2	2	Sara	Anderson	1985-02-02	Female	sara.anderson@example.com
3	3	James	Thomas	1975-03-03	Male	james.thomas@example.com
4	4	Lisa	Jackson	1980-04-04	Female	lisa.jackson@example.com
5	5	Robert	White	1995-05-05	Male	robert.white@example.com
6	6	Karen	Harris	1987-06-06	Female	karen.harris@example.com
7	7	Daniel	Clark	1992-07-07	Male	daniel.clark@example.com
8	8	Nancy	Lewis	1988-08-08	Female	nancy.lewis@example.com

Incidents Table:

Results Messages									
	IncidentID	IncidentType	IncidentDate	Location_Longitude	Location_Latitude	Description	Status	VictimID	SuspectID
1	1	Theft	2024-03-11	-73.93524200	40.73061000	Stolen bicycle	Open	1	1
2	2	Assault	2024-03-02	-73.98542800	40.74881700	Physical altercation	Open	2	2
3	3	Burglary	2024-02-23	-74.00601500	40.71277600	Break-in reported	Under Investigation	3	3
4	4	Vandalism	2024-02-14	-73.97748200	40.75272600	Graffiti on public property	Open	4	4
5	5	Fraud	2024-01-25	-73.97132100	40.78306000	Credit card fraud	OPEN	5	5
6	6	Robbery	2024-01-16	-73.95924400	40.76143200	Mugging	Open	6	6
7	7	Cybercrime	2024-01-07	-74.01344200	40.71097300	Phishing attack	Under Investigation	7	7
8	8	Kidnapping	2024-01-04	-73.99816500	40.71287800	Person missing	Closed	8	8
9	9	Robbery	2002-12-26	65.00000000	45.00000000	Someone broke in my shop and robbed	Open	8	8
10	10	Theft	2002-12-26	45.00000000	65.00000000	Theft of cat	Open	8	5
11	11	Fraud	2002-12-12	23.00000000	45.60000000	Fraud in the name of election commission, took m...	Open	1	5
12	121	Assualt	2024-10-14	45.00000000	65.00000000	5 people assaulted a single man	Under Invetigation	5	2

Cases Table:

Results Messages			
	CaselD	IncidentID	Details
1	1	1	Case involves theft of a bicycle from a public park.
2	2	2	Assault case involving a physical altercation betw...
3	3	3	a burglar has been caught
4	4	4	Case regarding vandalism in a public area, involv...
5	5	5	Credit Card details compromised
6	6	6	Case involving a mugging incident in an alleyway...
7	7	7	Cybercrime case involving a phishing attack.
8	8	8	Kidnapping case investigation, where a child wa...
9	9	8	Bike was stolen from the general store
10	10	10	Theft of car
11	123	121	That 5 man assaulted a man

Law Enforcement Agency Table:

Results		Messages			
	AgencyID	AgencyName	Jurisdiction	ContactInformation	IncidentID
1	1	NYPD	New York	nypd@example.com	1
2	2	LAPD	Los Angeles	lapd@example.com	2
3	3	Chicago PD	Chicago	chicago_pd@example.com	3
4	4	Houston PD	Houston	houston_pd@example.com	4
5	5	Phoenix PD	Phoenix	phoenix_pd@example.com	5
6	6	Philadelphia PD	Philadelphia	philly_pd@example.com	6
7	7	San Antonio PD	San Antonio	san_antonio_pd@example.com	7
8	8	San Diego PD	San Diego	sandiego_pd@example.com	8

Officers Table:

Results		Messages					
	OfficerID	FirstName	LastName	BadgeNumber	Rank	ContactInformation	AgencyID
1	1	Officer	Wells	12345	Sergeant	wells@nypd.com	1
2	2	Officer	Gibson	54321	Lieutenant	gibson@lapd.com	2
3	3	Officer	Andrews	67890	Captain	andrews@chicagopd.com	3
4	4	Officer	Mitchell	98765	Detective	mitchell@houstonpd.com	4
5	5	Officer	Moore	11111	Officer	moore@phoenixpd.com	5
6	6	Officer	Taylor	22222	Officer	taylor@phillypd.com	6
7	7	Officer	Jordan	33333	Officer	jordan@sanantoniopd.com	7
8	8	Officer	Lee	44444	Officer	lee@sandiegopd.com	8

Evidence Table:

<div> <div>Results</div> <div>Messages</div> </div>				
	EvidenceID	Description	LocationFound	IncidentID
1	1	CCTV Footage	Public Park	1
2	2	CCTV Footage	Street	2
3	3	Broken Window	House	3
4	4	Spray Paint Can	Wall	4
5	5	Credit Card	ATM	5
6	6	Wallet	Street	6
7	7	Email	Computer	7
8	8	Fingerprint	Room	8
9	9	Rope	Room	8
10	10	finger print	crime scene	2

Reports Table:

<div> <div>Results</div> <div>Messages</div> </div>						
	ReportID	IncidentID	ReportingOfficerID	ReportDate	ReportDetails	Status
1	1	1	1	2024-03-13	Officer Wells filed the initial report detailing the t...	Draft
2	2	2	2	2024-03-10	Officer Gibson finalized the report on the physica...	Finalized
3	3	3	3	2024-02-28	Officer Andrews submitted a report on the burgla...	Draft
4	4	4	4	2024-02-16	Officer Mitchell drafted a report on the vandalism...	Draft
5	5	5	5	2024-01-13	Officer Moore is investigating a credit card fraud ...	Pending
6	6	6	6	2024-01-14	Officer Taylor drafted a report on a mugging inci...	Draft
7	7	7	7	2024-01-15	Officer Jordan is handling a cybercrime case inv...	Pending
8	8	8	8	2024-01-16	Officer Lee finalized the report on the kidnappin...	Finalized
9	9	1	4	2024-10-12	Investgation done	Under investigation

Menu-Driven Working of Project :

1. Create a new incident

```
!!! Welcome to Crime Analysis and Reporting System !!!
```

1. Create a new incident
2. Update the status of an incident (Open/Closed/Under Investigation)
3. Get a list of incidents within a date range
4. Search for incidents based on incident type
5. Create report of an incident
6. Create a new case
7. Get details of a specific case
8. Update case details
9. List of all Cases
0. Exit

```
Please choose from the above options (0-9): 1
```

```
Enter Incident ID: 121
```

```
Enter Incident Type: Assault
```

```
Enter Incident Date (DD-MM-YYYY): 14-10-2024
```

```
Enter Location Longitude: 45
```

```
Enter Location Latitude: 65
```

```
Enter Incident Description: 5 people assaulted a single man
```

```
Enter Incident Status: Open
```

```
Enter Victim ID: 5
```

```
Enter Suspect ID: 2
```

```
inside create incident... attempting to create incident...
```

```
inserting in Incidents table...
```

```
...Incident Created Sucessfully...
```

2. Update the status of an incident (Open/Closed/Under Investigation)

1. Create a new incident
2. Update the status of an incident (Open/Closed/Under Investigation)
3. Get a list of incidents within a date range
4. Search for incidents based on incident type
5. Create report of an incident
6. Create a new case
7. Get details of a specific case
8. Update case details
9. List of all Cases
0. Exit

```
Please choose from the above options (0-9): 2
```

```
Enter Incident ID: 121
```

```
Enter Incident Status: Under Invetigation
```

```
data to be fetched based on incident id... fetching data...
```

```
[(121, 'Assault', '2024-10-14', Decimal('45.00000000'), Decimal('65.00000000'), '5 people assaulted a single man', 'Open', 5, 2)]
```

```
...Incident Status Updated Successfully...
```

3. Get a list of incidents within a date range

```

Please choose from the above options (0-9): 3
Enter Start Date (DD-MM-YYYY): 11-01-2024
Enter End Date (DD-MM-YYYY): 12-02-2025
fetching all incidents between the date range...
date range query executed...

```

IncidentID	IncidentType	IncidentDate	Location_Longitude	Location_Latitude	Description	Status
VictimID	SuspectID					
1	Theft	2024-03-11	-73.9352	40.7306	Stolen bicycle	Open
2	Assault	2024-03-02	-73.9854	40.7488	Physical altercation	Open
3	Burglary	2024-02-23	-74.006	40.7128	Break-in reported	Under Investigation
4	Vandalism	2024-02-14	-73.9775	40.7527	Graffiti on public property	Open
5	Fraud	2024-01-25	-73.9713	40.7831	Credit card fraud	OPEN
6	Robbery	2024-01-16	-73.9592	40.7614	Mugging	Open
121	Assualt	2024-10-14	45	65	5 people assaulted a single man	Under Invetigation

4. Search for incidents based on incident type

```

1. Create a new incident
2. Update the status of an incident (Open/Closed/Under Investigation)
3. Get a list of incidents within a date range
4. Search for incidents based on incident type
5. Create report of an incident
6. Create a new case
7. Get details of a specific case
8. Update case details
9. List of all Cases
0. Exit

Please choose from the above options (0-9): 4
Enter Incident Type: Assualt
Fetching incident data based on the entered incident type - Assualt

```

IncidentID	IncidentType	IncidentDate	Location_Longitude	Location_Latitude	Description	Status
VictimID	SuspectID					
121	Assualt	2024-10-14	45	65	5 people assaulted a single man	Under Invetigation

5. Create report of an incident

1. Create a new incident
2. Update the status of an incident (Open/Closed/Under Investigation)
3. Get a list of incidents within a date range
4. Search for incidents based on incident type
5. Create report of an incident
6. Create a new case
7. Get details of a specific case
8. Update case details
9. List of all Cases
0. Exit

Please choose from the above options (0-9): 5

Enter Report ID: 9

Enter Incident ID: 1

Enter Reporting Officer ID: 4

Enter Report Date (DD-MM-YYYY): 12-10-2024

Enter Report Details: Investigation done

Enter Report Status: Under investigation

Entering updates in reports table related to the incident as part of the report creation...

...Incident Report added successfully...

6. Create a new case

1. Create a new incident
2. Update the status of an incident (Open/Closed/Under Investigation)
3. Get a list of incidents within a date range
4. Search for incidents based on incident type
5. Create report of an incident
6. Create a new case
7. Get details of a specific case
8. Update case details
9. List of all Cases
0. Exit

Please choose from the above options (0-9): 6

Enter Case ID: 123

Enter Incident ID: 121

Enter Case Details: That 5 man assaulted a man

checking if the incident details for the entered incident id is present

the retrieved incident data is:

```
[(121, 'Assault', '2024-10-14', Decimal('45.00000000'), Decimal('65.00000000'), '5 people assaulted a single man', 'Under Investigation', 5, 2)]
```

found incident details, registering case...

...Case Created Successfully...

7. Get details on a specific case.

1. Create a new incident
2. Update the status of an incident (Open/Closed/Under Investigation)
3. Get a list of incidents within a date range
4. Search for incidents based on incident type
5. Create report of an incident
6. Create a new case
7. Get details of a specific case
8. Update case details
9. List of all Cases
0. Exit

Please choose from the above options (0-9): 7

Enter Case ID: 5

fetching case details

```
+-----+
| Details |
+-----+
| Credit Card details compromised |
+-----+
```

8. Update case details

1. Create a new incident
2. Update the status of an incident (Open/Closed/Under Investigation)
3. Get a list of incidents within a date range
4. Search for incidents based on incident type
5. Create report of an incident
6. Create a new case
7. Get details of a specific case
8. Update case details
9. List of all Cases
0. Exit

```
Please choose from the above options (0-9): 8
Enter Case ID: 3
Enter Case Details: a burglar has been caught
entering update case section...
check if case associated to entered caseID is present...
associated case exists

...Case Details Updated successfully...
```

9. List of all Cases

```
Please choose from the above options (0-9): 9
fetching all the cases present in the table...
```

CaseID	IncidentID	Details
1	1	Case involves theft of a bicycle from a public park.
2	2	Assault case involving a physical altercation between two individuals.
3	3	a burglar has been caught
4	4	Case regarding vandalism in a public area, involving graffiti.
5	5	Credit Card details compromised
6	6	Case involving a mugging incident in an alleyway, and the suspect fled.
7	7	Cybercrime case involving a phishing attack.
8	8	Kidnapping case investigation, where a child was reported missing.
9	8	Bike was stolen from the general store
10	10	Theft of car
123	121	That 5 man assaulted a man

0. Exit

1. Create a new incident
2. Update the status of an incident (Open/Closed/Under Investigation)
3. Get a list of incidents within a date range
4. Search for incidents based on incident type
5. Create report of an incident
6. Create a new case
7. Get details of a specific case
8. Update case details
9. List of all Cases
0. Exit

```
Please choose from the above options (0-9): 0
```

```
!!! You are now exiting the system !!!
```