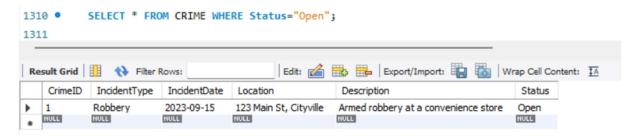
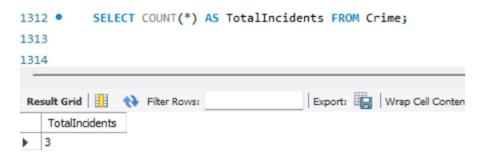
## **Coding Challenge 3**

Solve the below queries:

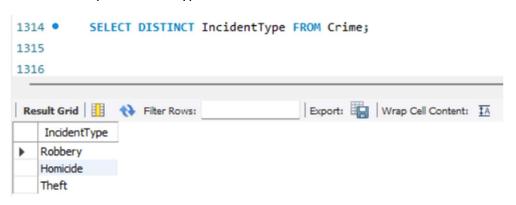
1. Select all open incidents.



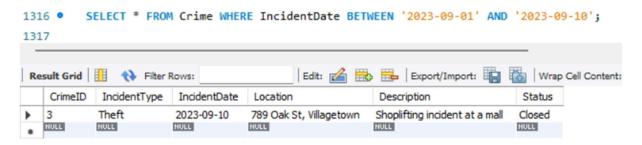
2. Find the total number of incidents.



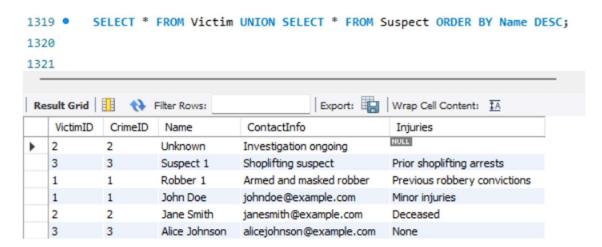
3. List all unique incident types.



4. Retrieve incidents that occurred between '2023-09-01' and '2023-09-10'.



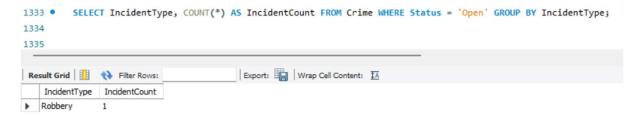
5. List persons involved in incidents in descending order of age.



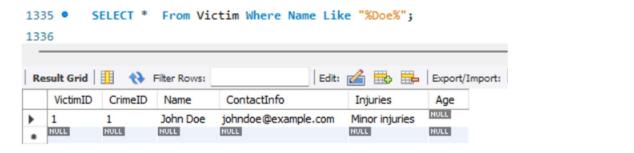
6. Find the average age of persons involved in incidents.

```
1321 •
         ALTER TABLE Victim ADD COLUMN Age INT;
         ALTER TABLE Suspect ADD COLUMN Age INT;
1322 •
1323 •
         INSERT INTO Victim(Age) Values
1324
         (25),
1325
         (30),
1326
         (34);
1327 •
         INSERT INTO Suspect(Age) Values
1328
         (25),
1329
         (30),
         (34);
1330
         SELECT AVG(Age) AS AverageAge FROM (SELECT Age FROM Victim UNION SELECT Age FROM Suspect) AS AgeData;
1331 •
1332
1333
1334
Export: Wrap Cell Content: IA
   AverageAge
  29.6667
```

7. List incident types and their counts, only for open cases.



8. Find persons with names containing 'Doe'.



9. Retrieve the names of persons involved in open cases and closed cases.

```
SELECT Name, 'Open' AS CaseStatus
1340
        FROM Victim
1341
        WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE Status = 'Open')
        UNION
1342
1343
       SELECT Name, 'Closed' AS CaseStatus
        FROM Victim
1344
1345
        WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE Status = 'Closed')
        UNION
1346
1347
        SELECT Name, 'Open' AS CaseStatus
1348
        FROM Suspect
        WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE Status = 'Open')
1349
1350
        UNION
1351
        SELECT Name, 'Closed' AS CaseStatus
1352
        FROM Suspect
1353
        WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE Status = 'Closed');
1354
                                      Export: Wrap Cell Content: IA
CaseStatus
   Name
John Doe
              Open
   Alice Johnson Closed
   Robber 1
              Open
   Suspect 1
              Closed
```

10. List incident types where there are persons aged 30 or 35 involved.

```
1355 •
        SELECT DISTINCT c.IncidentType
1356
        FROM Crime c
        JOIN Victim v ON c.CrimeID = v.CrimeID AND v.Age IN (30, 35)
1357
1358
        UNION
1359 SELECT DISTINCT c.IncidentType
1360
        FROM Crime c
1361
        JOIN Suspect s ON c.CrimeID = s.CrimeID AND s.Age IN (30, 35);
                                     Export: Wrap Cell Content: IA
IncidentType
  Robbery
  Theft
```

11. Find persons involved in incidents of the same type as 'Robbery'.



12. List incident types with more than one open case.

```
SELECT IncidentType, COUNT(*) AS OpenCasesCount

FROM Crime

WHERE Status = 'Open'

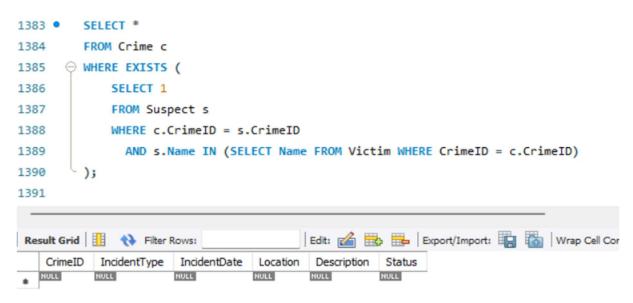
RESULT IncidentType, COUNT(*) > 1;

Result Grid  Filter Rows:

Export: Wrap Cel

IncidentType OpenCasesCount
```

13. List all incidents with suspects whose names also appear as victims in other incidents.



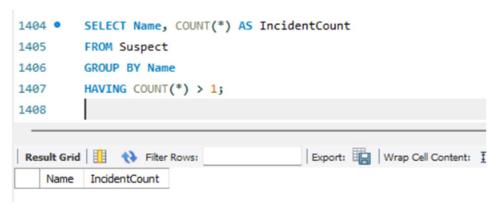
14. Retrieve all incidents along with victim and suspect details.

```
SELECT c.*, v.Name AS VictimName, v.ContactInfo AS VictimContactInfo, v.Injuries AS VictimInjuries,
          s.Name AS SuspectName, s.Description AS SuspectDescription, s.CriminalHistory AS SuspectCriminalHistory
          FROM Crime c
          LEFT JOIN Victim v ON c.CrimeID = v.CrimeID
1395
          LEFT JOIN Suspect s ON c.CrimeID = s.CrimeID;
                                                                                                                                                              Export: Wrap Cell Content: TA
   CrimeID IncidentType IncidentDate Location
                                                                                           Status
                                                                                                            VictimName
                                                                                                                         VictimContactInfo
                                                                                                                                                 VictimInjuries
                                                                                                                                                              Susp
            Robbery
                         2023-09-15
                                     123 Main St, Cityville
                                                          Armed robbery at a convenience store
                                                                                          Open
                                                                                                            John Doe
                                                                                                                         johndoe@example.com
                                                                                                                                                Minor injuries
                                                                                                                                                             Robbe
                                                                                                                     janesmith@example.com
                         2023-09-20
                                     456 Elm St, Townsville
                                                         Investigation into a murder case
                                                                                          Under Investigation Jane Smith
                                                                                                                                                Deceased
                                                                                                                                                             Unkno
            Homicide
                                     789 Oak St, Villagetown Shoplifting incident at a mall
                         2023-09-10
                                                                                                            Alice Johnson
                                                                                                                         alicejohnson@example.com
```

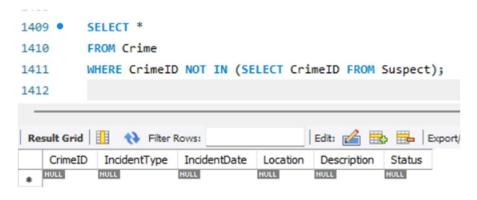
15. Find incidents where the suspect is older than any victim.

```
1398 •
         SELECT c.*
1399
         FROM Crime c
         JOIN Victim v ON c.CrimeID = v.CrimeID
1400
         JOIN Suspect s ON c.CrimeID = s.CrimeID
1401
         WHERE s.Age > ANY (SELECT Age FROM Victim WHERE CrimeID = c.CrimeID);
1402
1403
Export: Wrap Cell Content: IA
                                   Location
    CrimeID
            IncidentType IncidentDate
                                                     Description
                                                                                   Status
1
           Robbery
                       2023-09-15
                                   123 Main St, Cityville
                                                    Armed robbery at a convenience store
                                                                                  Open
```

16. Find suspects involved in multiple incidents:



17. List incidents with no suspects involved.



18. List all cases where at least one incident is of type 'Homicide' and all other incidents are of type 'Robbery'.

```
1413 • SELECT *
1414
         FROM Crime
         WHERE IncidentType = 'Homicide' AND CrimeID IN (SELECT CrimeID FROM Crime WHERE IncidentType = 'Robbery')
1415
            OR IncidentType = 'Robbery' AND CrimeID NOT IN (SELECT CrimeID FROM Crime WHERE IncidentType = 'Homicide');
1417
| Edit: 🚄 🖶 | Export/Import: 🏣 👸 | Wrap Cell Content: 🔣
    CrimeID IncidentType IncidentDate Location
                                                   Description
                                                                                 Status
                       2023-09-15
                                  123 Main St, Cityville
           Robbery
                                                   Armed robbery at a convenience store
                                                                                Open
```

19. Retrieve a list of all incidents and the associated suspects, showing suspects for each incident, or 'No Suspect' if there are none.

```
SELECT c.*, COALESCE(s.Name, 'No Suspect') AS SuspectName, COALESCE(s.Description, '') AS SuspectDescription,
          COALESCE(s.CriminalHistory, '') AS SuspectCriminalHistory
1419
1420
          FROM Crime c
1421
          LEFT JOIN Suspect s ON c.CrimeID = s.CrimeID;
1422
1423
                                                                                                                                                             Export: Wrap Cell Content: IA
   CrimeID IncidentType IncidentDate Location
                                                          Description
                                                                                          Status
                                                                                                           SuspectName SuspectDescription
                                                                                                                                               SuspectCriminalHistory
            Robbery
                                     123 Main St, Cityville
                                                                                                           Robber 1
                         2023-09-15
                                                          Armed robbery at a convenience store
                                                                                                                        Armed and masked robber
                                                                                         Open
                                                                                                                                             Previous robbery convic
                        2023-09-20
                                     456 Elm St, Townsville Investigation into a murder case
                                                                                                                        Investigation ongoing
            Theft
                         2023-09-10
                                     789 Oak St, Villagetown Shoplifting incident at a mall
                                                                                         Closed
                                                                                                           Suspect 1
                                                                                                                        Shoplifting suspect
                                                                                                                                              Prior shoplifting arrests
```

20. List all suspects who have been involved in incidents with incident types 'Robbery' or 'Assault'.

