TEAM 3-CSK

SQL Coding Challenge Crime Management

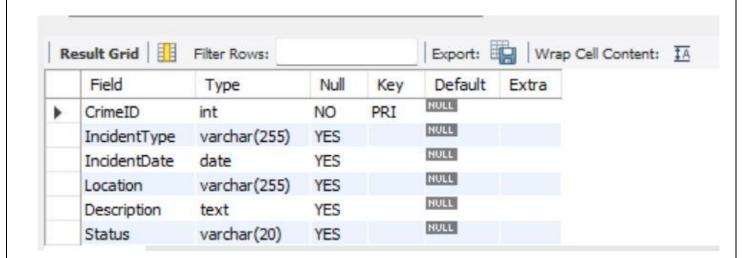
Create database Crime Management

- create database Crime_Management;
- use Crime_Management;

Create tables

Crime

```
CREATE TABLE Crime (
CrimeID INT PRIMARY KEY,
IncidentType VARCHAR(255),
IncidentDate DATE,
Location VARCHAR(255),
Description TEXT,
Status VARCHAR(20)
);
```



Victim

```
CREATE TABLE Victim (
   VictimID INT PRIMARY KEY,
   CrimeID INT,
   Name VARCHAR(255),
   ContactInfo VARCHAR(255),
   Injuries VARCHAR(255),
   FOREIGN KEY (CrimeID) REFERENCES Crime(CrimeID)
);

alter table Victim add age int;
desc Victim;

update Victim set age='30' WHERE VictimID='1';
update Victim set age='40' WHERE VictimID='2';
update Victim set age='50' WHERE VictimID='3';
select*from Victim;
```

			I secure	17	The same of the same	T. Marie J.
	Field	Type	Null	Key	Default	Extra
•	VictimID	int	NO	PRI	NULL	
	CrimeID	int	YES	MUL	NULL	
	Name	varchar(255)	YES		NULL	
	ContactInfo	varchar(255)	YES		NULL	
	Injuries	varchar(255)	YES		NULL	
	age	int	YES		NULL	

```
CREATE TABLE Suspect (
  SuspectID INT PRIMARY KEY,
  CrimeID INT,
  Name VARCHAR(255),
  Description TEXT,
  CriminalHistory TEXT,
  FOREIGN KEY (CrimeID) REFERENCES Crime(CrimeID)
);
 alter table Suspect add SAge int;
 desc Suspect;
 alter table Suspect drop column age;
 update Suspect set SAge='60' WHERE SuspectID='1';
 update Suspect set SAge='70' WHERE SuspectID='2';
 update Suspect set SAge='80' WHERE SuspectID='3';
                                         Export: Wrap Cell Content: IA
 Result Grid | Filter Rows:
    Field
                              Null
                                           Default
                  Type
                                     Key
                                                   Extra
                                          NULL
   SuspectID
                 int
                              NO
                                    PRI
                                          NULL
   CrimeID
                              YES
                                    MUL
                 int
                                          NULL
   Name
                 varchar(255)
                              YES
                                          NULL
   Description
                 text
                              YES
                                          NULL
   CriminalHistory
                 text
                              YES
                                          NULL
   SAge
                 int
                              YES
```

Insert values

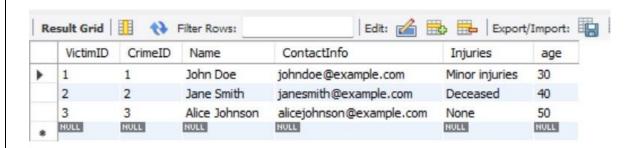
Crime

```
INSERT INTO Crime (CrimeID, IncidentType, IncidentDate, Location, Description, Status)
  (1, 'Robbery', '2023-09-15', '123 Main St, Cityville', 'Armed robbery at a convenience store', 'Open'),
(2, 'Homicide', '2023-09-20', '456 Elm St, Townsville', 'Investigation into a murder case', 'Under
- Investigation'),
  (3, 'Theft', '2023-09-10', '789 Oak St, Villagetown', 'Shoplifting incident at a mall', 'Closed');
                                                Edit: 🚄 🖶 Export/Import: 📳 🐞 Wrap Cell Content: 🔣
CrimeID
            IncidentType
                           IncidentDate
                                                              Description
                                                                                               Status
                                        Location
              Robbery
                           2023-09-15
                                        123 Main St, Cityville
                                                             Armed robbery at a convenience store
                                                                                              Open
     2
             Homicide
                           2023-09-20
                                        456 Elm St, Townsville
                                                             Investigation into a murder case
                                                                                              Under Inve...
     3
              Theft
                           2023-09-10
                                        789 Oak St, Villagetown
                                                             Shoplifting incident at a mall
                                                                                              Closed
    NULL
             NULL
                                                                                              NULL
```

Victim

```
INSERT INTO Victim (VictimID, CrimeID, Name, ContactInfo, Injuries)
VALUES

(1, 1, 'John Doe', 'johndoe@example.com', 'Minor injuries'),
 (2, 2, 'Jane Smith', 'janesmith@example.com', 'Deceased'),
 (3, 3, 'Alice Johnson', 'alicejohnson@example.com', 'None');
```



Suspect

```
INSERT INTO Suspect (SuspectID, CrimeID, Name, Description, CriminalHistory)
VALUES
```

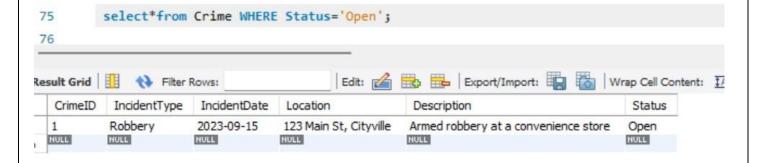
```
(1, 1, 'Robber 1', 'Armed and masked robber', 'Previous robbery convictions'),
(2, 2, 'Unknown', 'Investigation ongoing', NULL),
(3, 3, 'Suspect 1', 'Shoplifting suspect', 'Prior shoplifting arrests');
```

R	esult Grid	₹ Fil	ter Rows:	Edit:	Export/Import:	Wrap	
	SuspectID	CrimeID	Name	Description	CriminalHistory	SAge 60	
•	1	1	Robber 1	Armed and masked robber	Previous robbery convictions		
	2 2		Unknown	Investigation ongoing	HULL	70	
	3	3	Suspect 1	Shoplifting suspect	Prior shoplifting arrests	80	

QUERIES:

1. Select all open incidents.

SELECT * FROM Crime WHERE Status = 'Open';



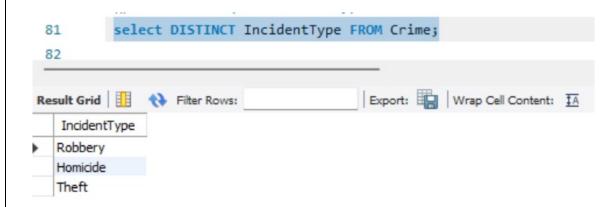
2. Find the total number of incidents.

SELECT COUNT(*) AS TotalIncidents FROM Crime;



3.List all unique incident types.

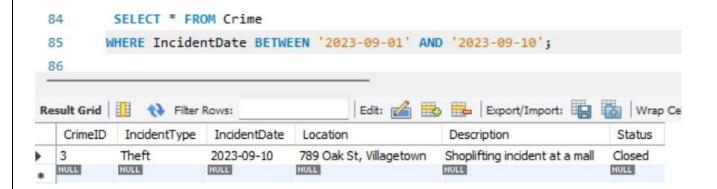
SELECT DISTINCT IncidentType FROM Crime;



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

SELECT * FROM Crime

WHERE IncidentDate BETWEEN '2023-09-01' AND '2023-09-10';



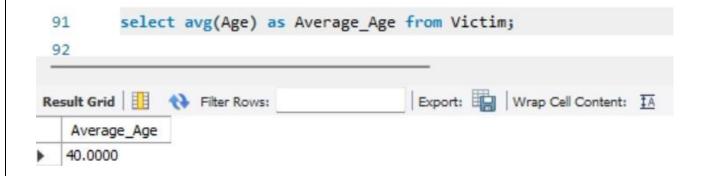
5. List persons involved in incidents in descending order of age.

Select VictimId, CrimeID, Name, Age from Victim order by Age desc;



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

select avg(Age) as Average_Age from Victim;



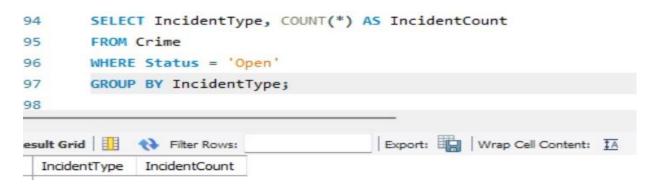
7. List incident types and their counts, only for open cases.

SELECT IncidentType, COUNT(*) AS IncidentCount

FROM Crime

WHERE Status = 'Open'

GROUP BY IncidentType;



8. Find persons with names containing 'Doe'.

SELECT * FROM Victim

WHERE Name LIKE '%Doe%';



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

SELECT DISTINCT V.Name

FROM Victim V

JOIN Crime C ON V.CrimeID = C.CrimeID

WHERE C.Status IN ('Open', 'Closed');

1	04	SELEC	T D	ISTINCT V	. Name					
105 FROM Victim V				tim V						
106		JOIN Crime C ON V.CrimeID = C.CrimeID								
1	07	WHERE	WHERE C.Status IN ('Open', 'Closed');							
1	08									
-										
R	esult Grid		43	Filter Rows:	Export:	Wrap Cell Content:	<u>∓A</u>			
	Name									
•	John Do	e								
	Alice Joh	inson								

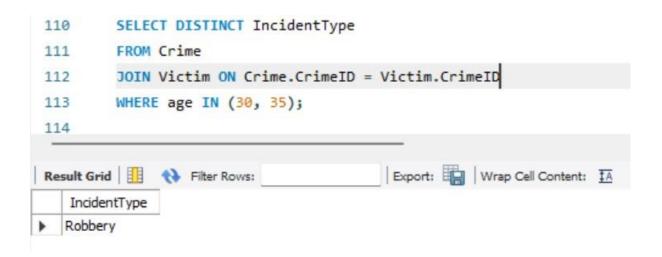
10.List incident types where there are persons aged 30 or 35 involved.

Select DISTINCT IncidentType

FROM Crime

Join Victim ON Crime.CrimeID = Victim.CrimeID

WHERE age IN (30,35);



11. Find persons involved in incidents of the same type as 'Robbery'. SELECT DISTINCT V.Name FROM Victim V JOIN Crime C ON V.CrimeID = C.CrimeID WHERE C.IncidentType = 'Robbery'; SELECT DISTINCT V.Name 116 FROM Victim V 117 JOIN Crime C ON V.CrimeID = C.CrimeID 118 WHERE C.IncidentType = 'Robbery'; 119 120 Export: Wrap Cell Content: TA Result Grid Filter Rows: Name John Doe 12.List incident types with more than one open case. SELECT IncidentType, COUNT(*) AS OpenCasesCount FROM Crime WHERE Status = 'Open' GROUP BY IncidentType HAVING COUNT(*) > 1; 122 SELECT IncidentType, COUNT(*) AS OpenCasesCount FROM Crime 123 WHERE Status = 'Open' 124 GROUP BY IncidentType 125 126 HAVING COUNT(*) > 1; 127 Export: Wrap Cell Content: IA Result Grid Filter Rows: IncidentType OpenCasesCount

```
13.List all incidents with suspects whose names also appear as victims in other incidents.
       SELECT C.*
      FROM Crime C
      JOIN (
      SELECT S.CrimeID
      FROM Suspect S
      WHERE EXISTS (
      SELECT 1
      FROM Victim V
      WHERE V.CrimeID = S.CrimeID
      AND V.Name = S.Name
      )
     ) AS Subquery ON C.CrimeID = Subquery.CrimeID;
  129
           SELECT C.*
         FROM Crime C
  130
        O JOIN (
  131
           SELECT S.CrimeID
  132
  133
           FROM Suspect S
        WHERE EXISTS (
  134
           SELECT 1
  135
           FROM Victim V
  136
           WHERE V.CrimeID = S.CrimeID
  137
           AND V.Name = S.Name
  138
  139
           )
           ) AS Subquery ON C.CrimeID = Subquery.CrimeID;
  140
  Result Grid Filter Rows:
                                          Export: Wrap Cell Content: TA
     CrimeID IncidentType IncidentDate Location Description
                                                      Status
```

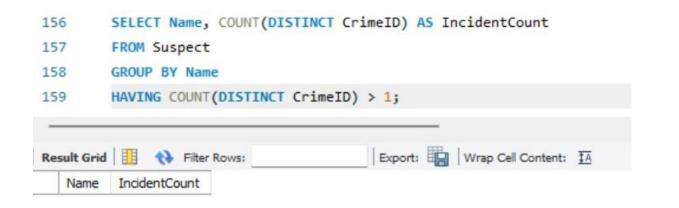
14.Retrieve all incidents along with victim and suspect details

```
143
         SELECT c.*, v.Name AS VictimName, v.ContactInfo AS VictimContactInfo,
144
        v.Injuries AS VictimInjuries,
145
         s.Name AS SuspectName, s.Description AS SuspectDescription,
         s.CriminalHistory AS SuspectCriminalHistory
147
         FROM Crime c
         LEFT JOIN Victim v ON c.CrimeID = v.CrimeID
148
         LEFT JOIN Suspect s ON c.CrimeID = s.CrimeID;
149
                                           Export: Wrap Cell Content: IA
                                                                                                                                            Status
   CrimeID IncidentType IncidentDate Location
                                                       Description
                                                                                                   VictimName
                                                                                                                VictimContactInfo
                                                                                                                                       VictimInjuri
                       2023-09-15 123 Main St, Cityville
                                                                                                                                      Minor injurie
                                                                                                   John Doe
                                                       Armed robbery at a convenience store
                                                                                      Open
                                                                                                               johndoe@example.com
  2
          Homicide
                     2023-09-20 456 Elm St, Townsville Investigation into a murder case Under Inve... Jane Smith
                                                                                                               janesmith@example.com
                                                                                                                                      Deceased
  3
          Theft
                       2023-09-10 789 Oak St, Villagetown Shoplifting incident at a mall
                                                                                      Closed
                                                                                                   Alice Johnson alicejohnson@example.com
                                                                                                                                      None
```

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

```
select c.CrimeID, v.Age, s.SAge from Crime c join Victim v on
152
         c.CrimeID=v.CrimeID join Suspect s on v.crimeID=s.CrimeID where Sage>age;
153
Result Grid Filter Rows:
                                          Export: Wrap Cell Content: TA
   CrimeID
                 SAge
           Age
           30
                 60
  2
           40
                 70
  3
           50
                 80
```

16. Find suspects involved in multiple incidents



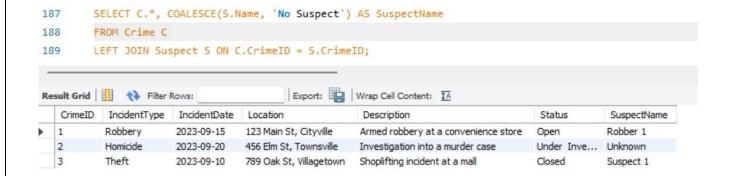
17.List incidents with no suspects involved.

```
SELECT C.*
162
         FROM Crime C
163
164
         LEFT JOIN Suspect S ON C.CrimeID = S.CrimeID
165
         WHERE S.SuspectID IS NULL;
Result Grid
                                             Export:
                                                        Wrap Cell Content: IA
               Filter Rows:
   CrimeID
            IncidentType
                       IncidentDate
                                     Location
                                              Description
                                                         Status
```

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

```
170
        SELECT C.*
171
        FROM Crime C
      WHERE EXISTS (
172
173
        SELECT 1
174
        FROM Crime
        WHERE CrimeID = C.CrimeID AND IncidentType = 'Homicide'
175
176
       AND NOT EXISTS (
177
        SELECT 1
178
179
        FROM Crime
180
         WHERE CrimeID = C.CrimeID AND IncidentType != 'Robbery'
181
182
183
                                       Edit: 🚄 📆 📙 Export/Import: 📳 🧓 Wrap Cell Content: 🖽
CrimeID IncidentType IncidentDate
                               Location
                                        Description
                                                  Status
NULL
          NULL
                     NULL
                               NULL
                                       NULL
                                                 NULL
```

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



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

