

SQL Queries Database

International Islamic University Islamabad



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833-FOC/BSIT/F22 - A

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GENERATING AND POPULATING THE TABLES:

1.

```
CREATE TABLE Police_Stations (
```

```
    Police_Station_ID INT PRIMARY KEY,
```

```
    Location VARCHAR(255),
```

```
    Number_of_Staff INT,
```

```
    Number_of_Prisons INT,
```

```
    Zone VARCHAR(50),
```

```
    Name VARCHAR(255)
```

```
);
```

```
INSERT INTO Police_Stations (Police_Station_ID, Location, Number_of_Staff,  
Number_of_Prisons, Zone, Name)
```

```
VALUES
```

```
(1, 'Abbottabad Cant Police Station', 30, 6, 'Abbottabad Central', 'Abbottabad District  
Central Station'),
```

```
(2, 'Islamabad G-11 Police Station', 50, 10, 'G-11, Islamabad', 'G13 - G11 Station'),
```

```
(3, 'Islamabad F-7 Police Station', 45, 4, 'F-9, Islamabad', 'F9 - F7 Central Station'),
```

```
(4, 'Taxila Cant Police Station', 35, 1, 'Taxila North', 'Taxila Tehsil North Station'),
```

```
(5, 'Rawalpindi Police Station', 60, 15, 'Rawalpindi Central', 'Rawalpindi City Central  
Station');
```

2.

CREATE TABLE Officers (

ID_Number VARCHAR(13) PRIMARY KEY,

Name VARCHAR(255),

Rank VARCHAR(50),

Department VARCHAR(100),

Phone_Number VARCHAR(11),

Police_Station_ID INT,

FOREIGN KEY (Police_Station_ID) REFERENCES Police_Station(Police_Station_ID)

);

INSERT INTO Officers (ID_Number, Name, Department, Rank, Phone_Number,
Police_Station_ID)

VALUES

('1234567894564', 'Usama', 'Traffic', 16, '03442156489', 1),

('1235467891012', 'Ali', 'Uniformed', 16, '03125488468', 2),

('1305428546488', 'Talha', 'Detective', 15, '03195554982', 3),

('1909065658487', 'Babar', 'Traffic', 18, '03005500065', 4),

('5122345678931', 'Ahmed', 'Uniformed', 17, '03111234567', 5);

3.

```
CREATE TABLE Cops (  
    CNIC VARCHAR(13) PRIMARY KEY,  
    Name VARCHAR(255),  
    Job_Type VARCHAR(100),  
    Department VARCHAR(100),  
    Phone_Number VARCHAR(11),  
    Police_Station_ID INT,  
    Officer_ID VARCHAR(13),  
    FOREIGN KEY (Police_Station_ID) REFERENCES Police_Station(Police_Station_ID),  
    FOREIGN KEY (Officer_ID) REFERENCES Officers(ID_Number)  
);  
  
INSERT INTO Cops (CNIC, Name, Job_Type, Department, Phone_Number,  
Police_Station_ID, Officer_ID)  
VALUES  
  
('1223546548884', 'Zubair', 'Uniformed Cop', 'Patrol', '03125553253', 1,  
'1235467891012'),  
  
('1310102254846', 'Osman', 'Traffic Cop', 'Traffic', '03129865484', 1, '1909065658487'),  
  
('3587695445662', 'Talal', 'Traffic Cop', 'Traffic', '03346221548', 1, '1234567894564'),  
  
('9090876745223', 'Rashid', 'Detective', 'Detectives', '03445353165', 1, '1305428546488'),  
  
('9965481551564', 'Ammar', 'Uniformed Cop', 'Patrol', '03445986648', 1,  
'5122345678931');
```

4.

```
CREATE TABLE Criminals (  
    CNIC VARCHAR(13) PRIMARY KEY,  
    Name VARCHAR(255),  
    Crime VARCHAR(255),  
    Age INT,  
    Phone_Number VARCHAR(11),  
    Prison_Number INT,  
    Vehicle_Number_Plate INT,  
    FOREIGN KEY (Prison_Number) REFERENCES Prisons(Prison_Number),  
    FOREIGN KEY (Vehicle_Number_Plate) REFERENCES  
Vehicles(Vehicle_Number_Plate)  
);  
  
INSERT INTO Criminals (CNIC, Name, Crime, Age, Phone_Number, Prison_Number,  
Vehicle_Number_Plate)  
VALUES  
  
('1314151444558', 'Abrar', 'drug', 20, '03009785546', 5, 124),  
('3525548554512', 'Abbas', 'hacking', 19, '03458884963', 4, 459),  
('5546131019123', 'Bashar', 'robbery', 25, '03135549955', 1, 124),  
('9685425851563', 'Jahanzaib', 'fight', 32, '03129761141', 3, 459),  
('9874564712135', 'Khalil', 'murder', 28, '03338964871', 2, 459);
```

5.

```
CREATE TABLE Victims (
```

```
    CNIC VARCHAR(13) PRIMARY KEY,
```

```
    Name VARCHAR(255),
```

```
    Address VARCHAR(255),
```

```
    Age INT,
```

```
    Phone_Number VARCHAR(11)
```

```
);
```

```
INSERT INTO Victims (CNIC, Name, Address, Age, Phone_Number)
```

```
VALUES
```

```
('1200324854548', 'Rishail', 'Lahore', 25, '03228484757'),
```

```
('1234567885445', 'Zarnosh', 'Islamabad', 35, '03128554754')
```

```
('1640416582352', 'Haris', 'Karachi', 18, '03450854564'),
```

```
('1909807765211', 'Muzamil', 'Abbottabad', 40, '03335252116'),
```

```
('2221115554888', 'Danish', 'Rawalpindi', 20, '03456881258');
```

6.

```
CREATE TABLE Vehicles (  
    Name VARCHAR(255),  
    Vehicle_Number_Plate INT PRIMARY KEY,  
    Type VARCHAR(100),  
    Model VARCHAR(100),  
    Owner VARCHAR(255),  
    Officer_ID VARCHAR(13),  
    FOREIGN KEY (Officer_ID) REFERENCES Officers(ID_Number)  
);  
  
INSERT INTO Vehicles (Name, Vehicle_Number_Plate, Type, Model, Owner, Officer_ID)  
VALUES  
  
('TOYOTA', 124, 'On duty', '2017', 'Usama', '1234567894564'),  
('HONDA', 300, 'On duty', '1997', 'Ali', '1235467891012'),  
('HONDA', 495, 'Prison Van', '1989', 'Talha', '1305428546488'),  
('TOYOTA', 639, 'Protocol', '2012', 'Ahmed', '5122345678931'),  
('SUZUKI', 704, 'On duty', '2005', 'Talha', '1305428546488');
```

7.

```
CREATE TABLE Weapons (
```

```
    License_Number VARCHAR(20) PRIMARY KEY,
```

```
    Name VARCHAR(255),
```

```
    Owner VARCHAR(255),
```

```
    Manufacturer VARCHAR(100),
```

```
    Type VARCHAR(50),
```

```
    Officer_ID VARCHAR(13),
```

```
    Cop_CNIC VARCHAR(13),
```

```
    FOREIGN KEY (Officer_ID) REFERENCES Officers(ID_Number)
```

```
);
```

```
INSERT INTO Weapons (License_Number, Name, Owner, Type, Manufacturer,  
Officer_ID)
```

```
VALUES
```

```
('1234567', 'Handgun', 'Usama', 'Glock', 'Pakistan', '1234567894564'),
```

```
('3221576', 'Shotgun', 'Ali', 'Remington', 'America', '1235467891012'),
```

```
('2154568', 'Handclifs', 'Talal', 'Glock', 'India', '1305428546488'),
```

```
('9887963', 'AK47', 'Usama', 'Remington', 'Russia', '1909065658487'),
```

```
('8712983', 'Pistol', 'Rashid', 'Glock', 'America', '5122345678931');
```


8.

```
CREATE TABLE Prisons (  
    Number_of_Occupants INT,  
    Location VARCHAR(255),  
    Prison_Number INT PRIMARY KEY,  
    Type VARCHAR(100),  
    Capacity INT,  
    Police_Station_ID INT,  
    FOREIGN KEY (Police_Station_ID) REFERENCES Police_Stations(Police_Station_ID)  
);  
  
INSERT INTO Prisons (Number_of_Occupants, Location, Prison_Number, Type,  
Capacity, Police_Station_ID)  
VALUES  
  
(4, 'Corner Block', 1, 'Minimum Security', 14, 1),  
(1, 'Special Block', 2, 'Specialized', 2, 1),  
(4, 'Cant Block', 3, 'Maximum Security', 6, 1),  
(10, 'Corner Block', 4, 'Specialized', 10, 1),  
(1, 'Special Block', 5, 'Minimum Security', 1, 1);
```

Specialization

Officer Class Specializations

i.

```
CREATE TABLE Traffic_Officer (  
    Officer_ID VARCHAR(13) PRIMARY KEY,  
    Registry_Type VARCHAR(100),  
    FOREIGN KEY (Officer_ID) REFERENCES Officers(ID_Number)  
);  
  
INSERT INTO Traffic_Officer (Officer_ID, Registry_Type)  
VALUES  
( '1234567894564', 'Challan Authority'),  
( '1909065658487', 'Licence Data');
```

ii.

```
CREATE TABLE Uniformed_Officer (  
    Officer_ID VARCHAR(13) PRIMARY KEY,  
    Patrol_Area VARCHAR(100),  
    FOREIGN KEY (Officer_ID) REFERENCES Officers(ID_Number)  
);  
  
INSERT INTO Uniformed_Officer (Officer_ID, Patrol_Area)  
VALUES  
('1235467891012','Islamabad'),  
('15122345678931','Abbottabad');
```

iii.

```
CREATE TABLE Detective_Officer (  
    Officer_ID VARCHAR(13) PRIMARY KEY,  
    Investigation_Style VARCHAR(100),  
    FOREIGN KEY (Officer_ID) REFERENCES Officers(ID_Number)  
);  
  
INSERT INTO Detective_Officer (Officer_ID, Investigation_Style)  
VALUES  
( '1305428546488','Underground');
```

Prison Class Specializations

i.

```
CREATE TABLE Specialized_Prison (  
    Prison_Number INT PRIMARY KEY,  
    Type_Of_Offenders VARCHAR(100),  
    FOREIGN KEY (Prison_Number) REFERENCES Prisons(Prison_Number)  
);  
  
INSERT INTO Specialized_Prison (Prison_Number, Type_Of_Offenders)  
VALUES  
(2, 'Drug Addicts'),  
(5, 'Mental');
```

ii.

```
CREATE TABLE Min_Security_Prison (  
    Prison_Number INT PRIMARY KEY,  
    Number_of_Guards INT,  
    Surveillance VARCHAR(100),  
    FOREIGN KEY (Prison_Number) REFERENCES Prisons(Prison_Number)  
);  
  
INSERT INTO Min_Security_Prison (Prison_Number, Number_of_Guards, Surveillance)  
VALUES  
  
(1, 2, '60%'),  
  
(4, 5, '70%');
```

iii.

```
CREATE TABLE Max_Security_Prison (  
    Prison_Number INT PRIMARY KEY,  
    Walls_Size VARCHAR(100),  
    Guard_Towers VARCHAR(100),  
    Surveillance VARCHAR(100),  
    FOREIGN KEY (Prison_Number) REFERENCES Prisons(Prison_Number)  
);  
  
INSERT INTO Max_Security_Prison (Prison_Number, Walls_Size, Guard_Towers,  
    Surveillance)  
VALUES  
(3, '30 feet', '05', 'Advanced Surveillance System');
```

Bridge Table

a.

```
CREATE TABLE Cop_Vehicle (  
    Cop_CNIC VARCHAR(13),  
    Vehicle_Number_Plate VARCHAR(20),  
    Usage_Date DATE,  
    PRIMARY KEY (Cop_CNIC, Vehicle_Number_Plate),  
    FOREIGN KEY (Cop_CNIC) REFERENCES Cops(CNIC),  
    FOREIGN KEY (Vehicle_Number_Plate) REFERENCES  
    Vehicles(Vehicle_Number_Plate)  
);  
  
INSERT INTO Cop_Vehicle (Cop_CNIC, Vehicle_Number_Plate, Usage_Date)  
VALUES  
('1223546548884', '124', '2/11/2001'),  
('1310102254846', '459', '2/1/2024'),  
('3587695445662', '704', '1/2/2024'),  
('9090876745223', '639', '5/3/2023'),  
('9965481551564', '300', '5/4/2024');
```

b.

```
CREATE TABLE Criminal_Victim (  
    Criminal_CNIC VARCHAR(13),  
    Victim_CNIC VARCHAR(13),  
    Loss_Type VARCHAR(100),  
    PRIMARY KEY (Criminal_CNIC, Victim_CNIC),  
    FOREIGN KEY (Criminal_CNIC) REFERENCES Criminals(CNIC),
```


FOREIGN KEY (Victim_CNIC) REFERENCES Victims(CNIC)

);

INSERT INTO Criminal_Victim (Criminal_CNIC, Victim_CNIC, Loss_Type)

VALUES

('1314151444558', '1909807765211', 'Drug'),

('3525548554512', '1640416582352', 'Data Loss'),

('5546131019123', '1200324854548', 'Money'),

('9685425851563', '1234567885445', 'Murder'),

('9874564712135', '2221115554888', 'Injured');

c.

```
CREATE TABLE Victim_PoliceStation (  
    Victim_CNIC VARCHAR(13),  
    Police_Station_ID INT,  
    Report_Type VARCHAR(100),  
    PRIMARY KEY (Victim_CNIC, Police_Station_ID),  
    FOREIGN KEY (Victim_CNIC) REFERENCES Victims(CNIC),  
    FOREIGN KEY (Police_Station_ID) REFERENCES Police_Stations(Police_Station_ID)  
);  
  
INSERT INTO Victim_PoliceStation (Victim_CNIC, Police_Station_ID, Report_Type)  
VALUES  
('1200324854548', 1, 'Robbery'),  
('1234567885445', 1, 'Murder'),  
('1640416582352', 1, 'Hacking'),  
('1909807765211', 1, 'Drug'),  
('2221115554888', 1, 'Fight');
```

c.

```
CREATE TABLE Cops_Criminal (  
  Cop_CNIC VARCHAR(13),  
  Criminal_CNIC VARCHAR(13),  
  Arrest_ID INT,  
  PRIMARY KEY (Cop_CNIC, Criminal_CNIC),  
  FOREIGN KEY (Cop_CNIC) REFERENCES Cops(CNIC),  
  FOREIGN KEY (Criminal_CNIC) REFERENCES Criminals(CNIC)  
);  
  
INSERT INTO Cops_Criminal ( Cop_CNIC, Criminal_CNIC, Arrest_ID )  
VALUES ('1223546548884', '1314151444558', 242),  
('1310102254846', '3525548554512', 82),  
('3587695445662', '5546131019123', 290),  
('9090876745223', '9685425851563', 455),  
('9965481551564', '9874564712135', '891');
```

QUERY DESIGN

Police Station

```
SELECT tblPoliceStation.[p ID], tblPoliceStation.Name, tblPoliceStation.Location,  
tblPoliceStation.[Number of Staff], tblPoliceStation.Zone, tblPoliceStation.[Number of  
Prison]
```

```
FROM tblPoliceStation
```

```
WHERE ((([please enter Police Station ID]) Is Null)) OR (((tblPoliceStation.[p  
ID])=[please enter Police Station ID]));
```

Officers

```
SELECT tblOfficer.[p ID], tblOfficer.[Officer ID], tblOfficer.Name, tblOfficer.Rank,  
tblOfficer.Department, tblOfficer.[Phone Number]
```

```
FROM tblOfficer
```

```
WHERE ((([Please enter the Officer ID]) Is Null)) OR (((tblOfficer.[Officer ID])=[Please  
enter the Officer ID]));
```

Cop

```
SELECT tblCop.CNIC, tblCop.Name, tblCop.[Job Type], tblCop.Department,  
tblCop.[Phone Number], tblCop.[Officer ID], tblCop.[p ID]
```

```
FROM tblCop
```

```
WHERE ((([Please enter the CNIC of Cop]) Is Null)) OR (((tblCop.CNIC)=([Please enter  
the CNIC of Cop]));
```

Weapon

```
SELECT tblWeapon.[License Number], tblWeapon.Name, tblWeapon.Owner,  
tblWeapon.Menufacturer, tblWeapon.[Officer ID], tblWeapon.CNIC
```

```
FROM tblWeapon
```

```
WHERE ((([Please enter the Licence Number of Weapon]) Is Null)) OR  
(((tblWeapon.[License Number])="Please enter the Licence Number of Weapon"));
```

Vehicle

```
SELECT tblVehicle.[Number Plate], tblVehicle.Name, tblVehicle.Owner,  
tblVehicle.Model, tblVehicle.Type, tblVehicle.[Officer ID], ([please enter Number of  
Plate]) AS Expr1
```

```
FROM tblVehicle
```

```
WHERE (((([please enter Number of Plate])) Is Null Or (([please enter Number of  
Plate]))=",")) OR (((tblVehicle.[Number Plate])=[please enter Number of Plate]));
```

Prison

```
SELECT tblPrison.Prison_Number, tblPrison.Type, tblPrison.Capacity,  
tblPrison.Location, tblPrison.[Number of Occupents], tblPrison.[p ID], [please enter  
Prison Number] AS Expr1
```

```
FROM tblPrison
```

```
WHERE ((([please enter Prison Number]) Is Null)) OR  
(((tblPrison.Prison_Number)=[please enter Prison Number]));
```

Victim

```
SELECT tblVictim.CNIC, tblVictim.Name, tblVictim.[Phone Number], tblVictim.Age,  
tblVictim.Address
```

```
FROM tblVictim
```

```
WHERE ((([please enter Victim CNIC]) Is Null)) OR (((tblVictim.CNIC)=[please enter  
Victim CNIC]));
```

Criminal

```
SELECT Criminals.CNIC, Criminals.Name, Criminals.Crime, Criminals.Age,  
Criminals.Phone_Number, Criminals.Prison_Number,  
Criminals.Vehicle_Number_Plate, ([Please enter the CNIC of Criminal]) AS Expr1
```

```
FROM Criminals
```

```
WHERE (((([Please enter the CNIC of Criminal])) Is Null)) OR
```

((Criminals.CNIC)=(Please enter the CNIC of Criminal)));

Uses Bridge Table (Cop - Vehicle)

SELECT tblUses.[Usage Date]

FROM tblCop INNER JOIN (tblUses INNER JOIN tblVehicle ON tblUses.[Number Plate] =
tblVehicle.[Number Plate]) ON tblCop.CNIC = tblUses.CNIC

WHERE (((tblCop.CNIC)=[please enter Cop CNIC]) AND ((tblVehicle.[Number
Plate])=[please enter Number of Plate]));

Effect Bridge Table (Criminal - Victim)

SELECT tblEffect.[Loss Type]

FROM tblVictim INNER JOIN (tblCriminal INNER JOIN tblEffect ON tblCriminal.[c
CNIC] = tblEffect.[c CNIC]) ON tblVictim.CNIC = tblEffect.CNIC

WHERE (((tblCriminal.[c CNIC])=[please enter Criminal CNIC]) AND
((tblVictim.CNIC)=[please enter Victim CNIC]));

Registers Bridge Table (Police Station- Victim)

SELECT tblRegisters.Report

FROM tblVictim INNER JOIN (tblPoliceStation INNER JOIN tblRegisters ON
tblPoliceStation.[p ID] = tblRegisters.[p ID]) ON tblVictim.CNIC = tblRegisters.CNIC

WHERE (((tblVictim.CNIC)=[please enter Victim CNIC]) AND ((tblPoliceStation.[p
ID])=[please enter Police Station ID]));

Arrest Bridge Table (Police Station- Victim)

SELECT Cops_Criminal.Arrest_ID

FROM Criminals INNER JOIN (Cops INNER JOIN Cops_Criminal ON Cops.CNIC =
Cops_Criminal.Cop_CNIC) ON Criminals.CNIC = Cops_Criminal.Criminal_CNIC

WHERE (((Cops.CNIC)=[please enter Cop CNIC]) AND ((Criminals.CNIC)=[please enter
Criminal CNIC]));

To Find Specific Data

Get Specific row of Cops table where CNIC is '1223546548884'.

```
SELECT *  
  
FROM Cops  
  
WHERE CNIC = '1223546548884';
```

Retrieve Phone_Number for all traffic Officers.

```
SELECT Phone_Number  
  
FROM Officers  
  
WHERE Department = 'Traffic';
```

Retrieve Name and Phone_Number for a specific Prisons.

```
SELECT Name, Phone_Number  
  
FROM Criminals  
  
WHERE Prison_Number = 1;
```

To Update the Record

Updating the Name and Owner of a Vehicle.

```
UPDATE Vehicles  
  
SET Vehicle_Number = 555, Owner = 'Zubair'  
  
WHERE Vehicle_Number_Plate = 247;
```

Updating the Type of a Prison.

```
UPDATE Prisons  
  
SET Type = 'Min-Security', Owner = 'Zubair'  
  
WHERE Vehicle_Number_Plate = 247;
```

To Delete a Record

Deleting a cop based on their phone number:

```
DELETE FROM Cops  
WHERE Phone_Number = '03346221548';
```

Deleting a record from Victim_PoliceStation:

```
DELETE FROM Victim_PoliceStation  
WHERE Victim_CNIC = '1909807765211' AND Police_Station_ID = 1 AND Report_Type =  
'Drug';
```

To Select Distinct Record

To display the distinct Cop_CNIC and Criminal_CNIC:

```
SELECT DISTINCT Criminal_CNIC, Arrest_ID  
FROM Cops_Criminal;
```

To display the distinct Range and Manufacturer from Weapons:

```
SELECT DISTINCT Range, Manufacturer  
FROM Weapons;
```