

Date: 29-12-2025 Day 2 – Querying & Modifying Data

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1. Create a Database command.

```
Create database insuranceDB
```

2. Create table commands for all the tables with constraints, relationships etc.

```
create table Customers(  
CustomerID int PRIMARY KEY,  
FirstName varchar(100),  
LastName varchar(100),  
DateOfBirth date,  
Phone varchar(20),  
Email varchar(100) UNIQUE  
);
```

```
create table Policies(  
PolicyID int Primary key,  
PolicyName varchar(100),  
PolicyType varchar(100),  
PremiumAmount DECIMAL(10,2),  
DurationYears int  
);
```

```
create table Agents(  
AgentID int Primary key,  
AgentName varchar(50),  
Phone varchar(20),  
City varchar(50));
```

```
create table Claims(  
ClaimsID int primary key,  
AssignmentID int,  
ClaimsDate date,  
ClaimsAmount decimal(10,2),  
ClaimStatus varchar(50),  
);
```

```
create table PolicyAssignments(  
AssignmentID int Primary key,  
CustomerID int,  
PolicyID int,  
AgentID int ,  
StartDate date,  
EndDate date,  
Constraint FK_Assign_Customer Foreign Key(CustomerID)
```

```
References Customers(CustomerID),
Constraint FK_Assign_Policy Foreign KEy(PolicyID)
References Policies(PolicyID),
Constraint FK_Assign_Agent Foreign KEy(AgentID)
References Agents(AgentID),
);
```

3. Insert commands for all tables.

```
insert into Customers
values
(101,'Manvitha','Reddy','2000-09-23','8999389997','manvithareddy23@gmail.com'),
(102,'Rajesh','Sharma','2000-04-15','895938967','rajeshsharma13@gmail.com'),
(103,'Mohit','Oberoi','2001-04-17','8229389007','mohittob@gmail.com'),
(104,'Priya','Singh','2000-09-29','8922380017','priyas0929@gmail.com'),
(105,'Sandhya','Rani','2002-09-03','8019389327','sandhya23@gmail.com')
(106,'Ayush','Mehta','2020-12-31','9948905679','ayushmmtaa@gmail.com');
```

```
insert into Agents
values
(1001,'Manoj','8897100567','Hyderabad'),
(1002,'Samanvi','9907100567','Mumbai');
(1003,'Krishna','8894600710','Pune'),
(1004,'Bhavani','9907132467','Mumbai')
(1005,'Arjun','980227857','Patna');
```

```
insert into Policies
Values
(1,'Jeevan Sathi','Life Insurance',500000.00,5),
(2,'Acko','Car Insurance',100000.00,5)
(3,'Star Health','Health Insurance',250000.00,5),
(4,'Safar Yojana','Travel Insurance',100000.00,1)
(5,'Yolo Health','Health Insurance',450000.00,7)
(6,'Paw Care','Pet Insurance',15000.00,1);
```

```
insert into PolicyAssignments
values
(2001,101,1,1001,'2024-10-08','2029-10-08'),
(2002,102,2,1002,'2024-12-06','2029-12-06')
(2003,103,3,1003,'2024-07-07','2029-07-07'),
(2004,104,4,1004,'2024-02-26','2025-02-26');
```

```
insert into Claims
Values
(1501,2001,'2024-10-08',50000.00,'Approved'),
(1502,2002,'2024-12-06',10000.00,'Rejected')
(1503,2003,'2024-07-07',25000.00,'Rejected'),
(1504,2004,'2024-02-26',9000.00,'Approved');
```

4. Select commands

1. View all records Customers table.

	CustomerID	FirstName	LastName	DateOfBirth	Phone	Email
1	101	Manvitha	Reddy	2000-09-23	8999389997	manvithareddy23@gmail.com
2	102	Rajesh	Sharma	2000-04-15	895938967	rajeshsharma13@gmail.com
3	103	Mohit	Oberoi	2001-04-17	8229389007	mohittob@gmail.com
4	104	Priya	Singh	2000-09-29	8922380017	priyas0929@gmail.com

4 2. View all records of PolicyAssignment table with CustomerId, PolicyId, StartDate and EndDate columns only.

```
select CustomerID,PolicyID ,StartDate,EndDate from PolicyAssignments;
```

	CustomerID	PolicyID	StartDate	EndDate
1	101	1	2024-10-08	2029-10-08
2	102	2	2024-12-06	2029-12-06
3	103	3	2024-07-07	2029-07-07
4	104	4	2024-02-26	2025-02-26

4 3. Display all policies of Health type.

```
select *from Policies where PolicyType='Health Insurance' ;
```

	PolicyID	PolicyName	PolicyType	PremiumAmount	DurationYears
1	3	Star Health	Health Insurance	250000.00	5
2	5	Yolo Health	Health Insurance	450000.00	7

4 4. Display policies having premium amount more than 10000 and DurationYears is 1.

```
select *from Policies where PremiumAmount>10000 and DurationYears=1 ;
```

	PolicyID	PolicyName	PolicyType	PremiumAmount	DurationYears
1	4	Safar Yojana	Travel Insurance	100000.00	1
2	6	Paw Care	Pet Insurance	15000.00	1

4 5 .Display unique city names from where agents belong to.

```
select distinct City from Agents ;
```

	City
1	Hyderabad
2	Mumbai
3	Pune

4 6.List policies of type Life, Health, Motor use OR clause.

```
select * from Policies where PolicyType='Life Insurance' or PolicyType='Car Insurance' or
```

PolicyType='Health Insurance';

	PolicyID	PolicyName	PolicyType	PremiumAmount	DurationYears
1	1	Jeevan Sathi	Life Insurance	500000.00	5
2	2	Acko	Car Insurance	100000.00	5
3	3	Star Health	Health Insurance	250000.00	5
4	5	Yolo Health	Health Insurance	450000.00	7

4 7.List policies of type Life, Health, Motor use IN operator.

select *from Policies where PolicyType in ('Life Insurance','Car Insurance','Health Insurance');

	PolicyID	PolicyName	PolicyType	PremiumAmount	DurationYears
1	1	Jeevan Sathi	Life Insurance	500000.00	5
2	2	Acko	Car Insurance	100000.00	5
3	3	Star Health	Health Insurance	250000.00	5
4	5	Yolo Health	Health Insurance	450000.00	7

4 8.Display list of customers born after January 1 st , 2001 and before December 31 st , 2020 using >= and <= operators.

select * from Customers where DateOfBirth>='2001-01-01' and DateOfBirth<='2020-12-31';

	CustomerID	FirstName	LastName	DateOfBirth	Phone	Email
1	103	Mohit	Oberoi	2001-04-17	8229389007	mohittob@gmail.com
2	105	Sandhya	Rani	2002-09-03	8019389327	sandhya23@gmail.com
3	106	Ayush	Mehta	2020-12-31	9948905679	ayushmmtaa@gmail.com

4 9. Display list of customers born after January 1 st , 2001 and before December 31 st , 2020 using between operator.

select * from Customers where DateOfBirth between '2001-01-01' and '2020-12-31';

	CustomerID	FirstName	LastName	DateOfBirth	Phone	Email
1	103	Mohit	Oberoi	2001-04-17	8229389007	mohittob@gmail.com
2	105	Sandhya	Rani	2002-09-03	8019389327	sandhya23@gmail.com
3	106	Ayush	Mehta	2020-12-31	9948905679	ayushmmtaa@gmail.com

4 10.Display claims data where claim status is Rejected.

select *from Claims where ClaimStatus='Rejected';

	ClaimsID	AssignmentID	ClaimsDate	ClaimsAmount	ClaimStatus
1	1502	2002	2024-12-06	10000.00	Rejected
2	1503	2003	2024-07-07	25000.00	Rejected

4 11.Display records of Agents who stay in a city whose second letter is 'a'.

select *from Agents where City like '_a%';

	AgentID	AgentName	Phone	City
1	1005	Arjun	980227857	Patna

4 12.Display highest and lowest claimAmount from Claims table.

select max(ClaimsAmount) as HighAmt , min(ClaimsAmount) as LowAmt from Claims;

	HighAmt	LowAmt
1	50000.00	9000.00

4 13 Display latest claim record.

select top 1 * from Claims order by ClaimsDate desc;

	ClaimsID	AssignmentID	ClaimsDate	ClaimsAmount	ClaimStatus
1	1502	2002	2024-12-06	10000.00	Rejected

4 14 Increase premium amount to 10% for all health insurance policies.

update Policies

set PremiumAmount=PremiumAmount+(PremiumAmount*0.1)

where PolicyType='Health Insurance';

select *from Policies;

	PolicyID	PolicyName	PolicyType	PremiumAmount	DurationYears
1	1	Jeevan Sathi	Life Insurance	500000.00	5
2	2	Acko	Car Insurance	100000.00	5
3	3	Star Health	Health Insurance	275000.00	5
4	4	Safar Yojana	Travel Insurance	100000.00	1
5	5	Yolo Health	Health Insurance	495000.00	7
6	6	Paw Care	Pet Insurance	15000.00	1

4 15 Delete the record of PolicyAssignments whose EndDate is before today's date.

```
DELETE FROM Claims
WHERE AssignmentID IN (
    SELECT AssignmentID
    FROM PolicyAssignments
    WHERE EndDate < GETDATE()
);
```

```
DELETE FROM PolicyAssignments
WHERE EndDate < GETDATE();
```

4 16. Display no of claims rejected.

```
select count(*) from Claims where ClaimStatus='Rejected';
```

	Count
1	2

4 17. Display PolicyId, PolicyName, PremiumAmount along with computed fields not in table à 6% LocalTaxes, PremiumAmountWithTax and MonthlyPremiumAmount considering PremiumAmount is Annual.

```
select
    PolicyID,
    PolicyName,
    PremiumAmount,
    PremiumAmount * 0.06 AS LocalTaxes,
    PremiumAmount + (PremiumAmount * 0.06) AS PremiumAmountWithTax,
    PremiumAmount / 12.0 AS MonthlyPremiumAmount
from Policies;
```

	PolicyID	PolicyName	PremiumAmount	LocalTaxes	PremiumAmountWithTax	MonthlyPremiumAmount
1	1	Jeevan Sathi	500000.00	30000.0000	530000.0000	41666.666666
2	2	Acko	100000.00	6000.0000	106000.0000	8333.333333
3	3	Star Health	275000.00	16500.0000	291500.0000	22916.666666
4	4	Safar Yojana	100000.00	6000.0000	106000.0000	8333.333333
5	5	Yolo Health	495000.00	29700.0000	524700.0000	41250.000000
6	6	Paw Care	15000.00	900.0000	15900.0000	1250.000000

4 18. Write a command to add Address and City Columns in the Customers table.

```
alter Customers
add
    Address VARCHAR(200),
    City VARCHAR(50);
select *from Customers;
```

	CustomerID	FirstName	LastName	DateOfBirth	Phone	Email	Address	City
1	101	Manvitha	Reddy	2000-09-23	8999389997	manvithareddy23@gmail.com	NULL	NULL
2	102	Rajesh	Sharma	2000-04-15	895938967	rajeshsharma13@gmail.com	NULL	NULL
3	103	Mohit	Oberoi	2001-04-17	8229389007	mohittob@gmail.com	NULL	NULL
4	104	Priya	Singh	2000-09-29	8922380017	priyas0929@gmail.com	NULL	NULL
5	105	Sandhya	Rani	2002-09-03	8019389327	sandhya23@gmail.com	NULL	NULL
6	106	Ayush	Mehta	2020-12-31	9948905679	ayushmmtaa@gmail.com	NULL	NULL

4 19. Write a command to add a new column named DevOfId (DevelopmentOfficerId) in

an existing Agents table.

```
alter table Agents
```

```
add
```

```
    DevOfld int;
```

```
select * from Agents;
```

	AgentID	AgentName	Phone	City	DevOfld
1	1001	Manoj	8897100567	Hyderabad	NULL
2	1002	Samanvi	9907100567	Mumbai	NULL
3	1003	Krishna	8894600710	Pune	NULL
4	1004	Bhavani	9907132467	Mumbai	NULL
5	1005	Arjun	980227857	Patna	NULL

4 20 Write a command to make the above DevOfld as a recursive foreign key to AgentId as Parent.

```
alter table Agents
```

```
add constraint rfk_constraint
```

```
foreign key (DevOfld)
```

```
references Agents(AgentId);
```

5. Queries using Joins, Group By, Having etc.

1. List all Policies for a CustomerId 5.

(I have a different naming convention - chose the customer with more than 1 policy)

```
select
```

```
    p.PolicyName,
```

```
    p.PolicyType,
```

```
    pa.StartDate,
```

```
    pa.EndDate
```

```
from PolicyAssignments pa
```

```
JOIN Policies p
```

```
on pa.PolicyID = p.PolicyID
```

```
where pa.CustomerID = 103;
```

	PolicyName	PolicyType	StartDate	EndDate
1	Star Health	Health Insurance	2024-07-07	2029-07-07
2	Acko	Car Insurance	2024-12-06	2029-12-06

5 2. View all customers with their policies.

```
select c.CustomerID,c.FirstName,c.LastName,p.PolicyName,p.PolicyType from Customers c
join PolicyAssignments pa
    on c.CustomerID = pa.CustomerID
join Policies p
    on pa.PolicyID = p.PolicyID;
```

	CustomerID	FirstName	LastName	PolicyName	PolicyType
1	101	Manvitha	Reddy	Jeevan Sat...	Life Insurance
2	102	Rajesh	Sharma	Acko	Car Insurance
3	103	Mohit	Oberoi	Star Health	Health Insuren...
4	104	Priya	Singh	Safar Yojna...	Travel Insurance

5 3. View claims with customer name.

```
select c.CustomerID,c.FirstName,c.LastName,
       cl.CclaimsDate,cl.CclaimsAmount,cl.ClaimStatus
from Customers c
join PolicyAssignments pa
  on c.CustomerID = pa.CustomerID
join Claims cl
  on pa.AssignmentID = cl.AssignmentID;
```

	CustomerID	FirstName	LastName	ClaimsDate	ClaimsAmount	ClaimStatus
1	101	Manvitha	Reddy	2024-10-08	50000.00	Approved
2	102	Rajesh	Sharma	2024-12-06	10000.00	Rejected
3	103	Mohit	Oberoi	2024-07-07	25000.00	Rejected
4	104	Priya	Singh	2024-02-26	9000.00	Approved

5 4 . Display FirstName, PolicyName, AgentName, StartDate and EndDate from their respective tables.

```
Select
c.FirstName,
p.PolicyName,
a.AgentName,
pa.StartDate,
pa.EndDate
from
Customers c
join
PolicyAssignments pa
on c.CustomerID=pa.CustomerID
join Policies p
on pa.PolicyID=p.PolicyID
join Agents a
on pa.AgentID = a.AgentID;
```

	FirstName	PolicyName	AgentName	StartDate	EndDate
1	Manvitha	Jeevan Sathi	Manoj	2024-10-08	2029-10-08
2	Rajesh	Acko	Samanvi	2024-12-06	2029-12-06
3	Mohit	Star Health	Krishna	2024-07-07	2029-07-07
4	Priya	Safar Yojana	Bhavani	2024-02-26	2025-02-26

5 5 Display claims report with FirstName, PolicyName, ClaimAmount, ClaimStatus, and ClaimDate from their respective tables.

```
Select
cu.FirstName,
p.PolicyName,
c.CClaimsAmount,
c.ClaimStatus,
c.CClaimsDate
from
Customers cu
join
PolicyAssignments pa
on cu.CustomerID=pa.CustomerID
join Policies p
on pa.PolicyID=p.PolicyID
join Claims c
on pa.AssignmentID=c.AssignmentID;
```

	FirstName	PolicyName	ClaimsAmount	ClaimStatus	ClaimsDate
1	Manvitha	Jeevan Sathi	50000.00	Approved	2024-10-08
2	Rajesh	Acko	10000.00	Rejected	2024-12-06
3	Mohit	Star Health	25000.00	Rejected	2024-07-07
4	Priya	Safar Yojana	9000.00	Approved	2024-02-26

5 6 . Display records of Customers with or without Policies.

```
select c.*
from Customers c
left join PolicyAssignments pa
on c.CustomerID = pa.CustomerID
where pa.PolicyID IS NULL;
```

	CustomerID	FirstName	LastName	DateOfBirth	Phone	Email	Address	City
1	105	Sandhya	Rani	2002-09-03	8019389327	sandhya23@gmail.com	NULL	NULL
2	106	Ayush	Mehta	2020-12-31	9948905679	ayushmmtaa@gmail.com	NULL	NULL

5 7. Display all Customers with NO Claims.

```
SELECT c.*
FROM Customers c
left join PolicyAssignments pa
on c.CustomerID = pa.CustomerID
```

where pa.AssignmentID IS NULL;

	CustomerID	FirstName	LastName	DateOfBirth	Phone	Email	Address	City
1	105	Sandhya	Rani	2002-09-03	8019389327	sandhya23@gmail.com	NULL	NULL
2	106	Ayush	Mehta	2020-12-31	9948905679	ayushmmtaa@gmail.com	NULL	NULL

5 8.Show CustomerName with Total Claim Amount per Customer.

```
select
    c.FirstName,
    c.LastName,
    SUM(cl.CClaimsAmount) as TotalClaimAmount
from Customers c
JOIN PolicyAssignments pa
on c.CustomerID = pa.CustomerID
JOIN Claims cl
on pa.AssignmentID = cl.AssignmentID
group by c.FirstName, c.LastName;
```

	FirstName	LastName	TotalClaimAmount
1	Mohit	Oberoi	25000.00
2	Manvitha	Reddy	50000.00
3	Rajesh	Sharma	10000.00
4	Priya	Singh	9000.00

5 9 Show names and total claim amount of Customers With Claim Amount > 50000 (Use HAVING Clause).

```
select
    c.FirstName,
    c.LastName,
    SUM(cl.CClaimsAmount) as TotalClaimAmount
from Customers c
JOIN PolicyAssignments pa
on c.CustomerID = pa.CustomerID
JOIN Claims cl
on pa.AssignmentID = cl.AssignmentID
group by c.FirstName, c.LastName
Having SUM(cl.CClaimsAmount) > 50000;
```

	FirstName	LastName	TotalClaimAmount
1	Manvitha	Reddy	55000.00

5 10. Display list with Agent Wise Policy Count.

```
select
    a.AgentName,
    count(pa.PolicyID) AS PolicyCount
from Agents a
JOIN PolicyAssignments pa
on a.AgentID = pa.AgentID
group by a.AgentName;
```

	AgentName	PolicyCount
1	Bhavani	1
2	Krishna	1
3	Manoj	1
4	Samanvi	1