CREATE INSURANCE DB:

create database insuranceDB;

use insuranceDB;

CUSTOMERS TABLE:

```
create table Customers(
customerID int primary key,
FirstName varchar(50) not null,
LastName varchar(50),
DateOfBirth date,
Phone varchar(20),
email varchar(20) unique
);
```

POLICIES TABLE:

```
create table Policies(
PolicyID int primary key,
PolicyName varchar(50),
PolicyType varchar(50),
PremiumAccount varchar(10),
DurationYears date
);
```

AGENTS:

```
create table Agents(
AgentID int primary key,
AgentName varchar(20),
Phone varchar(20) not null,
City Varchar(20)
);
```

POLICY ASSIGNMENTS:

```
create table PolicyAssignments(
AssignmentID int primary key,
CustomerID int,
PolicyID int,
AgentID int,
StartDate date,
EndDate date,
constraint fk_policyass_custid_customers foreign key(CustomerID) references Customers(CustomerID),
constraint fk_policyass_policyid_policies foreign key(PolicyID) references Policies(PolicyID),
constraint fk_policyass_agentid_agents foreign key(AgentID) references Agents(AgentID)
);
```

CLAIMS:

```
create table Claims(
ClaimID int primary key,
AssignmentID int,
ClaimDate date,
ClaimAmount decimal,
ClaimStatus varchar(20),
constraint fk_claims_Assignmentid_assignments foreign key(AssignmentID) references PolicyAssignments(AssignmentID)
);
```

Modifying datatype from date to int(incompatible types where conversion is not possible):

```
alter table Policies drop column DurationYears;
alter table Policies add DurationYears int;
```

Insertion:

1.Customers

```
insert into Customers values(1,'poojitha','bejgum','2004-07-13',9347758510,'poojitha@gmail.com'),
(2,'ruchitha','bejgum','2001-12-11',9390423662,'ruchitha@gmail.com');
```

```
INSERT INTO Customers VALUES
(3, 'Aditi', 'Sharma', '1998-03-21', '8123456789', 'aditi@gmail.com'),
(4, 'Meera', 'Rao', '1985-11-30', '9988776655', 'meera@gmail.com'),
(5, 'Kabir', 'Khan', '2000-06-15', '7766554433', 'kabir@gmail.com');
```

2.Policies:

```
insert into Policies values(101,'HealthPlus','Health','PRE01',50),
(102,'Care Plus','Health','PRE02',50),
(103,'Drive Safe Plus','Vehicle','PRE03',40),
(104,'Safe Nest','Property','PRE04',100),
(105,'LifeSecure','Life','PRE05',40);
```

3.PolicyAssignments:

```
insert into PolicyAssignments values(1,1,101,1,'2025-12-28','2075-12-28'),
(2,2,102,2,'2025-12-28','2075-12-28');
```

```
insert into PolicyAssignments values
(3, 3, 105, 3, '2025-01-10', '2030-01-10'),
(4, 4, 104, 4, '2024-05-20', '2049-05-20'),
(5, 4, 101, 1, '2023-08-15', '2043-08-15');
```

4.Agents:

```
insert into Agents values(1,'Rohith','6309874810','Hyderabad');
insert into Agents values(2,'Swetha','9489928999','Nizamabad');
```

```
INSERT INTO Agents VALUES
(3, 'Arjun', '8899001122', 'Hyderabad'),
(4, 'Farah', '9900112233', 'Secunderabad');
```

5.Claims:

```
insert into Claims values(1,1,'2026-02-02',50000,'Active'),
(2,2,'2026-02-12',100000,'Active');
```

```
insert into  Claims values
(3, 3, '2025-03-01', 12000, 'PENDING'),
(4, 4, '2025-06-18', 55000, 'APPROVED'),
(5, 5, '2025-09-30', 25000, 'REJECTED');
```

```
alter table Policies drop column PremiumAccount;
alter table Policies add PremiumAmount int;
```

```
update Policies set PremiumAmount=50000 where PolicyID=101;
update Policies set PremiumAmount=20000 where PolicyID=102;
update Policies set PremiumAmount=40000 where PolicyID=103;
update Policies set PremiumAmount=80000 where PolicyID=104;
update Policies set PremiumAmount=25000 where PolicyID=105;
```

1.Select * from customers;

	customerID	FirstName	LastName	DateOfBirth	Phone	email
1	1	poojitha	bejgum	2004-07-13	9347758510	poojitha@gmail.com
2	2	ruchitha	bejgum	2001-12-11	9390423662	ruchitha@gmail.com
3	3	Aditi	Sharma	1998-03-21	8123456789	aditi@gmail.com
4	4	Meera	Rao	1985-11-30	9988776655	meera@gmail.com
5	5	Kabir	Khan	2000-06-15	7766554433	kabir@gmail.com

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

Query:

select CustomerId,PolicyId,StartDate,EndDate from PolicyAssignments;

Results Messages

	CustomerId	PolicyId	StartDate	EndDate
1	1	101	2025-12-28	2075-12-28
2	2	102	2025-12-28	2075-12-28
3	3	105	2025-01-10	2030-01-10
4	4	104	2024-05-20	2049-05-20
5	4	101	2023-08-15	2043-08-15

3.Display all policies of Health type.

Query:

Select * from Policies where PolicyType like ‘Health%’;

Results Messages

	PolicyID	PolicyName	PolicyType	DurationYears	PremiumAmount
1	101	HealthPlus	Health	50	50000
2	102	Care Plus	Health	50	20000

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

Query:

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

Results Messages

	PolicyID	PolicyName	PolicyType	DurationYears	PremiumAmount
1	101	HealthPlus	Health	1	50000
2	104	Safe Nest	Property	1	80000

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

Query: select distinct city from Agents;

Results Messages

	city
1	Hyderabad
2	Nizamabad
3	Secunderabad

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

Query:select * from Policies where Policytype like 'Life%' or PolicyType like 'Health%' or PolicyType like 'Motor%';

Results Messages

	PolicyID	PolicyName	PolicyType	DurationYears	PremiumAmount
1	101	HealthPlus	Health	1	50000
2	102	Care Plus	Health	50	20000
3	105	LifeSecure	Life	40	25000

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

Query:select * from Policies where PolicyType in ('Life','Health','Motor');

Results Messages

	PolicyID	PolicyName	PolicyType	DurationYears	PremiumAmount
1	101	HealthPlus	Health	1	50000
2	102	Care Plus	Health	50	20000
3	105	LifeSecure	Life	40	25000

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

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

Results Messages

	customerID	FirstName	LastName	DateOfBirth	Phone	email
1	1	poojitha	bejgum	2004-07-13	9347758510	poojitha@gmail.com
2	2	ruchitha	bejgum	2001-12-11	9390423662	ruchitha@gmail.com

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

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

Results Messages

	customerID	FirstName	LastName	DateOfBirth	Phone	email
1	1	poojitha	bejgum	2004-07-13	9347758510	poojitha@gmail.com
2	2	ruchitha	bejgum	2001-12-11	9390423662	ruchitha@gmail.com

10. Display claims data where claim status is Rejected.

Query:select * from Claims where ClaimStatus like 'Rejected';

Results Messages

	ClaimID	AssignmentID	ClaimDate	ClaimAmount	ClaimStatus
1	5	5	2025-09-30	25000	REJECTED

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

Query:Select * from Agents where city like '_a%';

Results Messages

	AgentID	AgentName	Phone	City
1	1	Rohith	6309874810	kamareddy

12. Display highest and lowest claimAmount from Claims table.

Query:

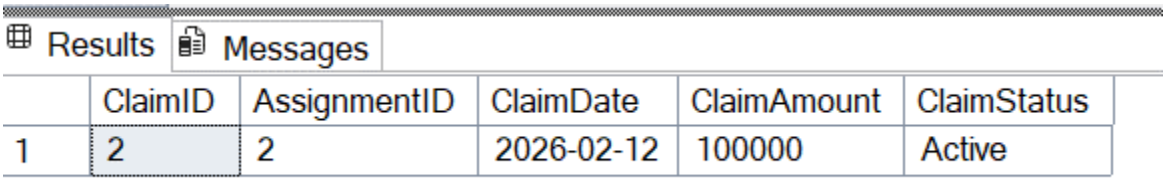
select min(ClaimAmount) as lowest_claim_amount,max(ClaimAmount) as highest_claim_amount from Claims;

Results Messages

	lowest_claim_amount	highest_claim_amount
1	12000	100000

13. Display latest claim record.

```
select top 1 * from Claims order by ClaimDate desc;
```

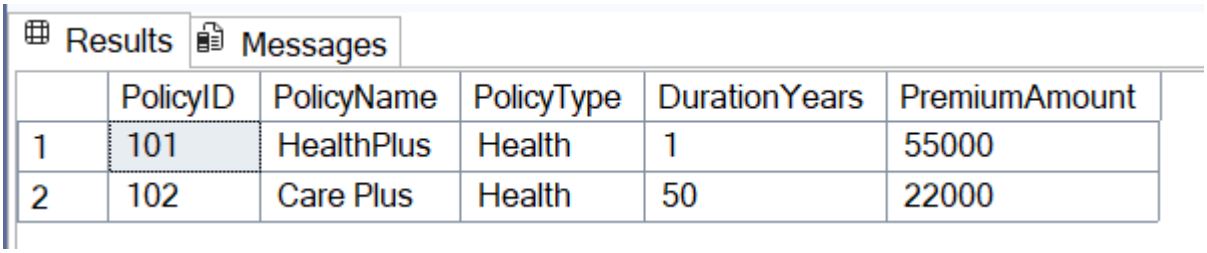


Results | Messages

	ClaimID	AssignmentID	ClaimDate	ClaimAmount	ClaimStatus
1	2	2	2026-02-12	100000	Active

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

```
update Policies set PremiumAmount=PremiumAmount*1.1 where PolicyType='Health';
select * from Policies where PolicyType='Health';
```



Results | Messages

	PolicyID	PolicyName	PolicyType	DurationYears	PremiumAmount
1	101	HealthPlus	Health	1	55000
2	102	Care Plus	Health	50	22000

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

As PolicyAssignments contains primary key is referred by claims we need to delete claims data first and then delete Policyassignments data

```
Query:delete from Claims
where AssignmentID in (
    select AssignmentID from PolicyAssignments where EndDate < getdate()
);
```

```
delete from PolicyAssignments
where EndDate < getdate();
```

Messages

```
(1 row affected)

(1 row affected)

Completion time: 2025-12-29T21:23:18.6719743+05:30
```

16. Display no of claims rejected.

```
select * from Claims where ClaimStatus='Rejected';
```

Results Messages

	ClaimID	AssignmentID	ClaimDate	ClaimAmount	ClaimStatus
1	3	3	2025-03-01	12000	Rejected

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

Query:

```
select PolicyId,PolicyName,PremiumAmount,PremiumAmount*0.06 as
tax,PremiumAmount-0.06*PremiumAmount as
PremAmount_withtax,PremiumAmount/12 as PremAmount_monthly
from Policies;
```

Results Messages

	PolicyId	PolicyName	PremiumAmount	tax	PremAmount_withtax	PremAmount_monthly
1	101	HealthPlus	55000	3300.00	51700.00	4583
2	102	Care Plus	22000	1320.00	20680.00	1833
3	103	Drive Safe Plus	40000	2400.00	37600.00	3333
4	104	Safe Nest	80000	4800.00	75200.00	6666
5	105	LifeSecure	25000	1500.00	23500.00	2083

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

alter table Customers add Address varchar(20),city VarChar(20);

select * from Customers;

Messages

```
Commands completed successfully.

Completion time: 2025-12-29T21:49:02.4082880+05:30
```

Results Messages

	customerID	FirstName	LastName	DateOfBirth	Phone	email	Address	city
1	1	poojitha	bejgum	2004-07-13	9347758510	poojitha@gmail.com	NULL	NULL
2	2	ruchitha	bejgum	2001-12-11	9390423662	ruchitha@gmail.com	NULL	NULL
3	3	Aditi	Sharma	1998-03-21	8123456789	aditi@gmail.com	NULL	NULL
4	4	Meera	Rao	1985-11-30	9988776655	meera@gmail.com	NULL	NULL
5	5	Kabir	Khan	2000-06-15	7766554433	kabir@gmail.com	NULL	NULL

19. Write a command to add a new column named DevOfId (DevelopmentOfficerId) in an existing Agents table.

alter table Agents add DevOfID int;

Messages

```
Commands completed successfully.

Completion time: 2025-12-29T21:49:02.4082880+05:30
```

Select * from Agents;

Results Messages

	AgentID	AgentName	Phone	City	DevOfID
1	1	Rohith	6309874810	kamareddy	NULL
2	2	Swetha	9489928999	Nizamabad	NULL
3	3	Arjun	8899001122	Hyderabad	NULL
4	4	Farah	9900112233	Secunderabad	NULL

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

alter table Agents add constraint recfk_DevOfID_AgentID foreign key(DevOfID) references Agents(AgentID);

Messages

```
Commands completed successfully.

Completion time: 2025-12-29T21:58:02.2548731+05:30
```

5. Queries using Joins, Group By, Having etc

1.List all Policies for a CustomerId 4.

select * from Policies p join PolicyAssignments pl on pl.PolicyID=p.PolicyID

join Customers c on pl.CustomerID=c.customerID where c.customerID=4;

Results Messages

	PolicyType	DurationYears	PremiumAmount	AssignmentID	CustomerID	PolicyID	AgentID	StartDate	EndDate	customerID	FirstName	LastName	DateOfBirth	Phone	email	Address	city
1	Property	1	80000	4	4	104	4	2024-05-20	2077-12-12	4	Meera	Rao	1985-11-30	9988776655	meera@gmail.com	NULL	NULL

2. View all customers with their policies.

select * from customers c join PolicyAssignments pl on c.customerID=pl.CustomerID

join Policies p on pl.PolicyID=p.PolicyID;

Results Messages

	FirstName	LastName	DateOfBirth	Phone	email	Address	city	AssignmentID	CustomerID	PolicyID	AgentID	StartDate	EndDate	PolicyID	PolicyName	PolicyType	DurationYears	PremiumAmoun
1	poojitha	bejgum	2004-07-13	9347758510	poojitha@gmail.com	NULL	NULL	1	1	101	1	2025-12-28	2034-12-12	101	HealthPlus	Health	1	55000
2	ruchitha	bejgum	2001-12-11	9390423662	ruchitha@gmail.com	NULL	NULL	2	2	102	2	2025-12-28	2048-12-12	102	Care Plus	Health	50	22000
3	Aditi	Sharma	1998-03-21	8123456789	aditi@gmail.com	NULL	NULL	3	3	105	3	2025-01-10	2081-12-12	105	LifeSecure	Life	40	25000
4	Meera	Rao	1985-11-30	9988776655	meera@gmail.com	NULL	NULL	4	4	104	4	2024-05-20	2077-12-12	104	Safe Nest	Property	1	80000

3. View claims with customer name.

Query:

select c.FirstName,cl.ClaimID from Claims cl join PolicyAssignments pl on cl.AssignmentID=pl.AssignmentID

join Customers c on pl.CustomerID=c.customerID;

Results Messages

	FirstName	ClaimID
1	poojitha	1
2	ruchitha	2
3	Aditi	3
4	Meera	4

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

select c.FirstName,p.PolicyName,a.AgentName,pl.StartDate,pl.EndDate

from Policies p join PolicyAssignments pl on p.PolicyID=pl.PolicyID

join Customers c on c.customerID=pl.CustomerID

join Agents a on a.AgentID=pl.AgentID;

Results Messages

	FirstName	PolicyName	AgentName	StartDate	EndDate
1	poojitha	HealthPlus	Rohith	2025-12-28	2034-12-12
2	ruchitha	Care Plus	Swetha	2025-12-28	2048-12-12
3	Aditi	LifeSecure	Arjun	2025-01-10	2081-12-12
4	Meera	Safe Nest	Farah	2024-05-20	2077-12-12

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

Query:

```
select p.PolicyName,c.FirstName,a.AgentName,cm.ClaimAmount,
cm.ClaimStatus,cm.ClaimDate
from Policies p join PolicyAssignments pl on p.PolicyID=pl.PolicyID
join Customers c on c.customerID=pl.CustomerID
join Agents a on a.AgentID=pl.AgentID
join Claims cm on cm.AssignmentID=pl.AssignmentID;
```

Results Messages

	PolicyName	FirstName	AgentName	ClaimAmount	ClaimStatus	ClaimDate
1	HealthPlus	poojitha	Rohith	50000	Active	2026-02-02
2	Care Plus	ruchitha	Swetha	100000	Active	2026-02-12
3	LifeSecure	Aditi	Arjun	12000	Rejected	2025-03-01
4	Safe Nest	Meera	Farah	55000	APPROVED	2025-06-18

6.Display records of Customers with or without Policies.

Query:

```
select c.FirstNAme,p.PolicyName from Customers c left join
PolicyAssignments pl on pl.CustomerID=c.customerID
left join Policies p on pl.PolicyID=p.PolicyID;
```

Results Messages

	FirstNAme	PolicyName
1	poojitha	HealthPlus
2	ruchitha	Care Plus
3	Aditi	LifeSecure
4	Meera	Safe Nest
5	Kabir	NULL
6	Kabir	NULL

7. Display all Customers with NO Claims.

```
select c.FirstName,cl.ClaimID from Customers c join PolicyAssignments pl on pl.CustomerID=c.customerID left join Claims cl on cl.AssignmentID=pl.AssignmentID where cl.ClaimID is null;
```

Results Messages

	FirstName	ClaimID

8. Show CustomerName with Total Claim Amount per Customer.

```
select concat(c.FirstName,c.LastName),sum(cl.ClaimAmount) as tot_amt from Customers c join PolicyAssignments pl on pl.CustomerID=c.customerID join Claims cl on cl.AssignmentID=pl.AssignmentID group by c.FirstName,c.LastName;
```

Results Messages

	(No column name)	tot_amt
1	poojithabejgum	50000
2	ruchithabejgum	100000
3	MeeraRao	55000
4	AditiSharma	12000

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

```
select concat(c.FirstName,c.LastName),sum(cl.ClaimAmount) as tot_amt
from Customers c join PolicyAssignments pl on
pl.CustomerID=c.customerID join Claims cl on
cl.AssignmentID=pl.AssignmentID group by c.FirstName,c.LastName
having sum(cl.ClaimAmount)>50000;
```

Results Messages

	(No column name)	tot_amt
1	ruchithabejgum	100000
2	MeeraRao	55000

10. Display list with Agent Wise Policy Count.

```
select a.AgentID,count(*) as number_of_policies from Policies p join
PolicyAssignments pl on pl.PolicyID=p.PolicyID join Agents a on
a.AgentID=pl.AgentID group by a.AgentID;
```

Results Messages

	AgentID	number_of_policies
1	1	1
2	2	1
3	3	1
4	4	1