Day-2 ASSIGNMENT

DATABASE AND TABLES CREATION:

DATABASE INSURANCE:

Create database insurance

Use insurance;

CUSTOMERS TABLE:

Create table customers(

CustomerID int identity primary key,

FirstName varchar(20),

LastName varchar(20),

DateOfBirth date,

Phone varchar(20),

Email varchar(100) unique

);

POLICIES:

create table policies(

policyid int identity primary key,

policyname varchar(50),

policytype varchar(50),

premiumamount decimal(10,2),

durationyears int

);

AGENTS:

create table agents(

agentid int identity primary key,

agentname varchar(50),

phone varchar(20),

city varchar(20)

);

PolicyAssignments:

create table policyassignments(

assignmentid int identity primary key,

customerid int,

policyid int,

agentid int,

startdate date,

enddate date

constraint fk_customers_assignment

foreign key (customerid) references customers(customerid),

constraint fk_policies_assignment

foreign key (policyid) references policies(policyid),

constraint fk_agents_assignment

foreign key (agentid) references agents(agentid)

);

CLAIMS:

create table claims(

claimid int identity primary key,

assignmentid int,

claimdate date,

claimmoney decimal(10,2),

claimstatus varchar(20)

constraint fk_assignment_claims

foreign key (assignmentid) references policyassignments(assignmentid)

);

INSERT COMMANDS:

Customers:

INSERT INTO customers (FirstName, LastName, DateOfBirth, Phone, Email) VALUES

('Amit', 'Sharma', '1992-05-14', '9876543210', 'amit.sharma@gmail.com'),

('Priya', 'Reddy', '1995-08-22', '9123456780', 'priya.reddy@gmail.com'),

('Rahul', 'Verma', '1988-12-03', '9988776655', 'rahul.verma@gmail.com'),

('Sneha', 'Patel', '1999-03-17', '9090909090', 'sneha.patel@gmail.com'),

('Kiran', 'Naik', '1990-07-09', '9445566778', 'kiran.naik@gmail.com');

Policies:

INSERT INTO policies (policyname, policytype, premiumamount, durationyears) VALUES

('Life Secure Plus', 'Life Insurance', 15000.00, 20),

('Health Shield', 'Health Insurance', 12000.00, 5),

('Car Protect', 'Vehicle Insurance', 8000.00, 3),

('Home Safe', 'Property Insurance', 10000.00, 10),

('Child Future Plan', 'Education Insurance', 18000.00, 15);

Agents:

INSERT INTO agents (agentname, phone, city) VALUES

('Ramesh Kumar', '9012345678', 'Hyderabad'),

('Sunita Rao', '9345678123', 'Bangalore'),

('Anil Mehta', '9876123450', 'Mumbai'),

('Pooja Singh', '9123987654', 'Delhi'),

('Meghana Shetty','9878276789','Hyderabad');

Policyassignments:
INSERT INTO policyassignments (customerid, policyid, agentid, startdate, enddate) VALUES

(2, 1, 1, '2022-01-01', '2042-01-01'),

(6, 2, 2, '2023-06-15', '2028-06-15'),

(3, 3, 3, '2021-09-10', '2024-09-10'),

(4, 4, 4, '2020-03-20', '2030-03-20'),

(5, 5, 5, '2024-02-01', '2039-02-01');

Claims:
INSERT INTO claims (assignmentid, claimdate, claimmoney, claimstatus) VALUES

(10, '2024-01-10', 45000.00, 'Approved'),

(12, '2023-11-05', 25000.00, 'Rejected'),

(9, '2023-08-18', 100000.00, 'Approved'),

(11, '2022-06-30', 60000.00, 'Pending'),

(8, '2021-07-08', 79600.00, 'Approved');

SELECT COMMANDS:

1. SELECT * FROM customers;

	CustomerID	FirstName	LastName	DateOfBirth	Phone	Email
1	2	Amit	Sharma	1992-05-14	9876543210	amit.sharma@gmail.com
2	3	Priya	Reddy	1995-08-22	9123456780	priya.reddy@gmail.com
3	4	Rahul	Verma	1988-12-03	9988776655	rahul.verma@gmail.com
4	5	Sneha	Patel	1999-03-17	9090909090	sneha.patel@gmail.com
5	6	Kiran	Naik	1990-07-09	9445566778	kiran.naik@gmail.com

2. SELECT customerid, policyid, startdate, enddate

   FROM policyassignments;

	customerid	policyid	startdate	enddate
1	2	1	2022-01-01	2042-01-01
2	6	2	2023-06-15	2028-06-15
3	3	3	2021-09-10	2024-09-10
4	4	4	2020-03-20	2030-03-20
5	5	5	2024-02-01	2039-02-01

3. SELECT * FROM Policies
   WHERE PolicyType = 'Health Insurance';

	policyid	policyname	policytype	premiumamount	durationyears
1	2	Health Shield	Health Insurance	12000.00	5

4. SELECT * FROM Policies
   WHERE PremiumAmount > 10000
   AND DurationYears = 1;

	policyid	policyname	policytype	premiumamount	durationyears

5. SELECT DISTINCT City
   FROM Agents;

	City
1	Bangalore
2	Delhi
3	Hyderabad
4	Mumbai

6. SELECT * FROM Policies
   WHERE PolicyType = 'Life Insurance' OR PolicyType = 'Health Insurance' OR
   PolicyType = 'Vehicle Insurance';

7. SELECT *FROM Policies
   WHERE PolicyType IN ('Life Insurance', 'Health Insurance', 'Vehicle Insurance');

	policyid	policyname	policytype	premiumamount	durationyears
1	1	Life Secure Plus	Life Insurance	15000.00	20
2	2	Health Shield	Health Insurance	12000.00	5
3	3	Car Protect	Vehicle Insurance	8000.00	3

8. SELECT * FROM Customers
   WHERE DateOfBirth >= '2001-01-01' AND DateOfBirth <= '2020-12-31';

9. SELECT * FROM Customers
   WHERE DateOfBirth BETWEEN '2001-01-01' AND '2020-12-31';

	CustomerID	FirstName	LastName	DateOfBirth	Phone	Email

10. SELECT * FROM Claims
    WHERE ClaimStatus = 'Rejected';

	claimid	assignmentid	claimdate	claimmoney	claimstatus
1	5	12	2023-11-05	25000.00	Rejected

11. SELECT * FROM Agents
    WHERE City LIKE '_a%';

	agentid	agentname	phone	city
1	2	Sunita Rao	9345678123	Bangalore

12. SELECT MAX(ClaimMoney) AS HighestClaimAmount,
    MIN(ClaimMoney) AS LowestClaimAmount
    FROM Claims;

	HighestClaimAmount	LowestClaimAmount
1	100000.00	25000.00

13. SELECT * FROM Claims
    WHERE ClaimDate = (SELECT MAX(ClaimDate) FROM Claims);

	claimid	assignmentid	claimdate	claimmoney	claimstatus
1	4	10	2024-01-10	45000.00	Approved

14. UPDATE Policies
    SET PremiumAmount = PremiumAmount * 1.10
    WHERE PolicyType = 'Health Insurance';

15. DELETE FROM PolicyAssignments
    WHERE EndDate < CAST(GETDATE() AS DATE)
    AND AssignmentID NOT IN (
    SELECT AssignmentID FROM Claims

16. SELECT COUNT(*) AS RejectedCount
    FROM Claims
    WHERE ClaimStatus = 'Rejected';

	RejectedClaimsCount
1	1

17. SELECT PolicyID, PolicyName, PremiumAmount,
    PremiumAmount * 0.06 AS LocalTaxes,
    PremiumAmount + (PremiumAmount * 0.06) AS PremiumAmountWithTax,
    (PremiumAmount + (PremiumAmount * 0.06)) / 12 AS MonthlyPremiumAmount
    FROM Policies;

	PolicyID	PolicyName	PremiumAmount	LocalTaxes	PremiumAmountWithTax	MonthlyPremiumAmount
1	1	Life Secure Plus	15000.00	900.0000	15900.0000	1325.0000000
2	2	Health Shield	13200.00	792.0000	13992.0000	1166.0000000
3	3	Car Protect	8000.00	480.0000	8480.0000	706.6666666
4	4	Home Safe	10000.00	600.0000	10600.0000	883.3333333
5	5	Child Future Plan	18000.00	1080.0000	19080.0000	1590.0000000

18. ALTER TABLE Customers
    ADD Address VARCHAR(100),
     City VARCHAR(50);

19. ALTER TABLE Agents
    ADD DevOfId INT;

20. ALTER TABLE Agents
    ADD CONSTRAINT fk_agents_dev
    FOREIGN KEY (DevOfId)
    REFERENCES Agents(AgentId);

Queries using Joins, Group By, Having

1. SELECT p.PolicyID, p.PolicyName, p.PolicyType, p.PremiumAmount,
   p.DurationYears
   FROM PolicyAssignments pa
   JOIN Policies p
   ON pa.PolicyID = p.PolicyID

WHERE pa.CustomerID = 5;

	PolicyID	PolicyName	PolicyType	PremiumAmount	DurationYears
1	5	Child Future Plan	Education Insurance	18000.00	15

2. SELECT c.CustomerID,
   c.FirstName,c.LastName,p.PolicyName,p.PolicyType,p.PremiumAmount
   FROM Customers c
   JOIN PolicyAssignments pa ON c.CustomerID = pa.CustomerID
   JOIN Policies p ON pa.PolicyID = p.PolicyID;

	CustomerID	FirstName	LastName	PolicyName	PolicyType	PremiumAmount
1	2	Amit	Sharma	Life Secure Plus	Life Insurance	15000.00
2	6	Kiran	Naik	Health Shield	Health Insurance	13200.00
3	3	Priya	Reddy	Car Protect	Vehicle Insurance	8000.00
4	4	Rahul	Verma	Home Safe	Property Insurance	10000.00
5	5	Sneha	Patel	Child Future Plan	Education Insurance	18000.00

3. SELECT
   c.FirstName,c.LastName,cl.ClaimID,cl.ClaimDate,cl.ClaimMoney,cl.ClaimStatus
   FROM Claims cl
   JOIN PolicyAssignments pa
   ON cl.AssignmentID = pa.AssignmentID
   JOIN Customers c
   ON pa.CustomerID = c.CustomerID;

	FirstName	LastName	ClaimID	ClaimDate	ClaimMoney	ClaimStatus
1	Priya	Reddy	4	2024-01-10	45000.00	Approved
2	Sneha	Patel	5	2023-11-05	25000.00	Rejected
3	Kiran	Naik	6	2023-08-18	100000.00	Approved
4	Rahul	Verma	7	2022-06-30	60000.00	Pending
5	Amit	Sharma	8	2021-07-08	79600.00	Approved

4. SELECT c.FirstName,p.PolicyName,a.AgentName,pa.StartDate,pa.EndDate
   FROM PolicyAssignments pa
   JOIN Customers c
   ON pa.CustomerID = c.CustomerID
   JOIN Policies p
   ON pa.PolicyID = p.PolicyID
   JOIN Agents a
   ON pa.AgentID = a.AgentID;

	FirstName	PolicyName	AgentName	StartDate	EndDate
1	Amit	Life Secure Plus	Ramesh Kumar	2022-01-01	2042-01-01
2	Kiran	Health Shield	Sunita Rao	2023-06-15	2028-06-15
3	Priya	Car Protect	Anil Mehta	2021-09-10	2024-09-10
4	Rahul	Home Safe	Pooja Singh	2020-03-20	2030-03-20
5	Sneha	Child Future Plan	Meghana Shetty	2024-02-01	2039-02-01

5. SELECT c.FirstName,p.PolicyName,
   cl.ClaimMoney AS ClaimAmount,
   cl.ClaimStatus,
   cl.ClaimDate
   FROM Claims cl
   JOIN PolicyAssignments pa
   ON cl.AssignmentID = pa.AssignmentID
   JOIN Customers c
   ON pa.CustomerID = c.CustomerID
   JOIN Policies p
   ON pa.PolicyID = p.PolicyID;

	FirstName	PolicyName	ClaimAmount	ClaimStatus	ClaimDate
1	Priya	Car Protect	45000.00	Approved	2024-01-10
2	Sneha	Child Future Plan	25000.00	Rejected	2023-11-05
3	Kiran	Health Shield	100000.00	Approved	2023-08-18
4	Rahul	Home Safe	60000.00	Pending	2022-06-30
5	Amit	Life Secure Plus	79600.00	Approved	2021-07-08

6. SELECT
   c.CustomerID,
   c.FirstName,
   c.LastName,
   p.PolicyName,
   p.PolicyType
   FROM Customers c
   LEFT JOIN PolicyAssignments pa
   ON c.CustomerID = pa.CustomerID
   LEFT JOIN Policies p
   ON pa.PolicyID = p.PolicyID;

	CustomerID	FirstName	LastName	PolicyName	PolicyType
1	2	Amit	Sharma	Life Secure Plus	Life Insurance
2	3	Priya	Reddy	Car Protect	Vehicle Insurance
3	4	Rahul	Verma	Home Safe	Property Insurance
4	5	Sneha	Patel	Child Future Plan	Education Insurance
5	6	Kiran	Naik	Health Shield	Health Insurance

7. SELECT DISTINCT c.CustomerID, c.FirstName, c.LastName
   FROM Customers c
   LEFT JOIN PolicyAssignments pa
   ON c.CustomerID = pa.CustomerID
   LEFT JOIN Claims cl
   ON pa.AssignmentID = cl.AssignmentID
   WHERE cl.ClaimID IS NULL;

	CustomerID	FirstName	LastName

8. SELECT c.FirstName, c.LastName,
   SUM(cl.ClaimMoney) 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	Amit	Sharma	79600.00
2	Kiran	Naik	100000.00
3	Priya	Reddy	45000.00
4	Rahul	Verma	60000.00
5	Sneha	Patel	25000.00

9. SELECT c.FirstName,c.LastName,
   SUM(cl.ClaimMoney) 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.ClaimMoney) > 50000;

	FirstName	LastName	TotalClaimAmount
1	Amit	Sharma	79600.00
2	Kiran	Naik	100000.00
3	Rahul	Verma	60000.00

10. SELECT a.AgentID,a.AgentName,
COUNT(pa.PolicyID) AS PolicyCount
FROM Agents a
LEFT JOIN PolicyAssignments pa
ON a.AgentID = pa.AgentID
GROUP BY a.AgentID, a.AgentName;

	AgentID	AgentName	PolicyCount
1	1	Ramesh Kumar	1
2	2	Sunita Rao	1
3	3	Anil Mehta	1
4	4	Pooja Singh	1
5	5	Meghana Shetty	1