ASSIGNMENT 1- DAY 2 (KATTA SAI RUTVIK)

1. Create Database command.

create databse InsuranceDB;

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

Customers

```
create table customers (
    customerid int identity(1,1) primary key,
    firstname varchar(50) not null,
    lastname varchar(50),
    dateofbirth date not null,
    phone varchar(15),
    email varchar(100) unique
);
```

Agents

```
create table agents (
    agentid int identity(1,1) primary key,
    agentname varchar(100) not null,
    city varchar(50),
    phone varchar(15),
    );
```

Policies

```
create table policies (
    policyid int identity(1,1) primary key,
    policyname varchar(100) not null,
    policytype varchar(20),
    premiumamount decimal(10,2) not null,
    durationyears int not null
);
```

PolicyAssignments

```
create table policyassignments (
    policyassignmentid int identity(1,1) primary key,
    customerid int not null,
    policyid int not null,
    agentid int not null,
    startdate date not null,
    enddate date,

    constraint fk_pa_customer
        foreign key (customerid) references
customers(customerid),

    constraint fk_pa_policy
        foreign key (policyid) references policies(policyid),

    constraint fk_pa_agent
        foreign key (agentid) references agents(agentid)
);
```

claims

```
create table claims (
    claimid int identity(1,1) primary key,
    policyassignmentid int not null,
    claimamount decimal(12,2) not null,
    claimdate date not null,
    claimstatus varchar(20),

    constraint fk_claims_policyassignment
        foreign key (policyassignmentid)
        references policyassignments(policyassignmentid)
);
```

3. Insert commands for all tables.

```
insert into customers (firstname, lastname, dateofbirth,
phone, email)
values
('Ravi', 'Kumar', '2003-06-15', '9876543210',
'ravi@gmail.com'),
('Anita', 'Sharma', '2005-09-20', '9876543211',
'anita@gmail.com'),
('Suresh', 'Reddy', '2001-02-10', '9876543212',
'suresh@gmail.com'),
('Priya', 'Mehta', '2010-11-18', '9876543213',
'priya@gmail.com'),
('Amit', 'Verma', '2008-01-05', '9876543214',
'amit@gmail.com');
```

```
insert into agents (agentname, city, phone)
values
('Rajesh Rao', 'hyderabad', '9123456780'),
('Sunita Devi', 'bangalore', '9123456781'),
('Mahesh Patel', 'ahmedabad', '9123456782'),
('Anil Kumar', 'chennai', '9123456783'),
('Kavya Nair', 'kochi', '9123456784');


insert into policies (policyname, policytype,
premiumamount, durationyears)
values
('Health Secure', 'health', 12000, 1),
('Life Protect', 'life', 25000, 10),
('Motor Safe', 'motor', 8000, 1),
('Health Plus', 'health', 18000, 2),
('Life Smart', 'life', 15000, 1);



insert into policyassignments (customerid, policyid,
agentid, startdate, enddate)
values
(1, 1, 1, '2024-01-01', '2025-01-01'),
(2, 2, 2, '2023-06-15', '2033-06-15'),
(3, 3, 3, '2024-03-10', '2025-03-10'),
(4, 4, 1, '2022-11-20', '2024-11-20'),
(5, 5, 4, '2024-05-05', null);
```

```
insert into claims (policyassignmentid, claimamount,
claimdate, claimstatus)
values
(1, 45000, '2024-06-10', 'approved'),
(1, 12000, '2024-08-15', 'rejected'),
(2, 60000, '2024-01-20', 'approved'),
(3, 30000, '2024-04-05', 'rejected'),
(5, 75000, '2024-09-01', 'approved');
```

```
select * from Customers;
```

Results Messages

	CustomerId	FirstName	LastName	DateOfBirth	Phone	Email
1	1	Ravi	Kumar	2003-06-15	9876543210	ravi@gmail.com
2	2	Anita	Sharma	2005-09-20	9876543211	anita@gmail.com
3	3	Suresh	Reddy	2001-02-10	9876543212	suresh@gmail.com
4	4	Priya	Mehta	2010-11-18	9876543213	priya@gmail.com
5	5	Amit	Verma	2008-01-05	9876543214	amit@gmail.com

```
select * from Agents;
```

Results Messages

	AgentId	AgentName	City	Phone
1	1	Rajesh Rao	hyderabad	9123456780
2	2	Sunita Devi	bangalore	9123456781
3	3	Mahesh Patel	ahmedabad	9123456782
4	4	Anil Kumar	chennai	9123456783
5	5	Kavya Nair	kochi	9123456784

select * from Policies;

	PolicyId	PolicyName	PolicyType	PremiumAmount	DurationYears
1	1	Health Secure	health	12000.00	1
2	2	Life Protect	life	25000.00	10
3	3	Motor Safe	motor	8000.00	1
4	4	Health Plus	health	18000.00	2
5	5	Life Smart	life	15000.00	1

select * from PolicyAssignments;

Results Messages

	PolicyAssignmentId	CustomerId	PolicyId	AgentId	StartDate	EndDate
1	1	1	1	1	2024-01-01	2025-01-01
2	2	2	2	2	2023-06-15	2033-06-15
3	3	3	3	3	2024-03-10	2025-03-10
4	4	4	4	1	2022-11-20	2024-11-20
5	5	5	5	4	2024-05-05	NULL

select * from claims;

Results Messages

	ClaimId	PolicyAssignmentId	ClaimAmount	ClaimDate	ClaimStatus
1	1	1	45000.00	2024-06-10	approved
2	2	1	12000.00	2024-08-15	rejected
3	3	2	60000.00	2024-01-20	approved
4	4	3	30000.00	2024-04-05	rejected
5	5	5	75000.00	2024-09-01	approved

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

```
select customerid, policyid, startdate, enddate
from policyassignments;
```

Results | Messages

	customerid	policyid	startdate	enddate
1	1	1	2024-01-01	2025-01-01
2	2	2	2023-06-15	2033-06-15
3	3	3	2024-03-10	2025-03-10
4	4	4	2022-11-20	2024-11-20
5	5	5	2024-05-05	NULL

4.3 Display all policies of Health type.

```
select *
from policies
where policytype = 'health';
```

Results | Messages

	PolicyId	PolicyName	PolicyType	PremiumAmount	DurationYears
1	1	Health Secure	health	12000.00	1
2	4	Health Plus	health	18000.00	2

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

```
select *
from policies
where premiumamount > 10000
 and durationyears = 1;
```

Results | Messages

	PolicyId	PolicyName	PolicyType	PremiumAmount	DurationYears
1	1	Health Secure	health	12000.00	1
2	5	Life Smart	life	15000.00	1

4.5 Display unique city names from where agents belong to.

```
select distinct city
from Agents;
```

	city
1	ahmedabad
2	bangalore
3	chennai
4	hyderabad
5	kochi

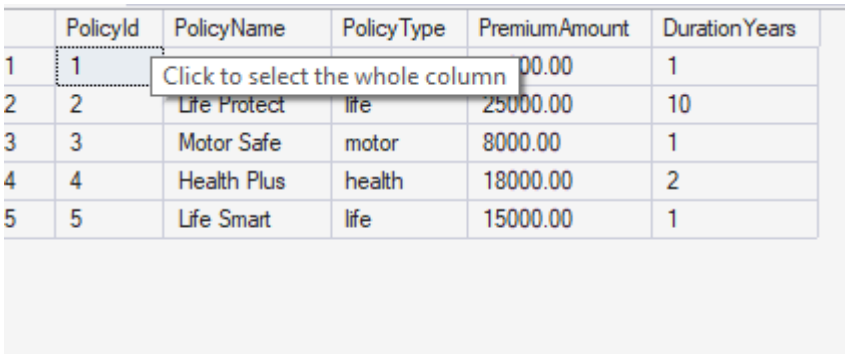
4.6 List policies of type Life, Health, Motor use OR clause.

```
select *
from policies
where policytype = 'life'
   or policytype = 'health'
   or policytype = 'motor';
```

	PolicyId	PolicyName	PolicyType	PremiumAmount	DurationYears
1	1	Health Secure	health	12000.00	1
2	2	Life Protect	life	25000.00	10
3	3	Motor Safe	motor	8000.00	1
4	4	Health Plus	health	18000.00	2
5	5	Life Smart	life	15000.00	1

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

```
select *
from policies
where policytype in ('life', 'health', 'motor');
```

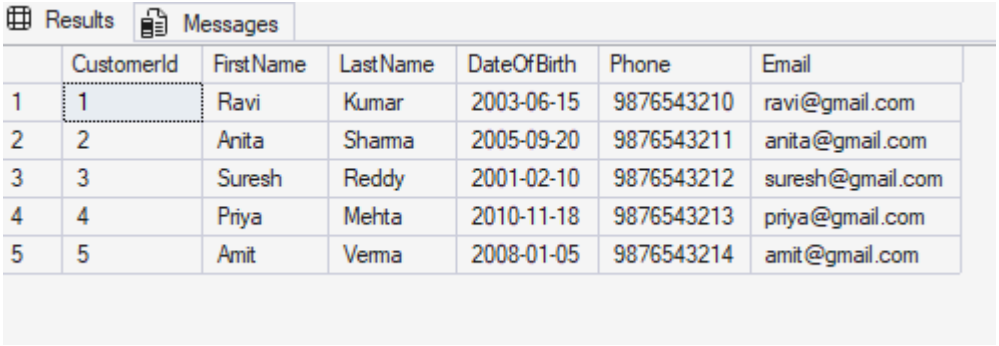


4.8 Display list of customers born after January 1st, 2001 and before December 31st, 2020 using >= and <=

```
Select *
from customers
where dateofbirth >= '2001-01-01'
  and dateofbirth <= '2020-12-31';
```

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

```
select *
from customers
where dateofbirth between '2001-01-01' and '2020-12-
31';
```

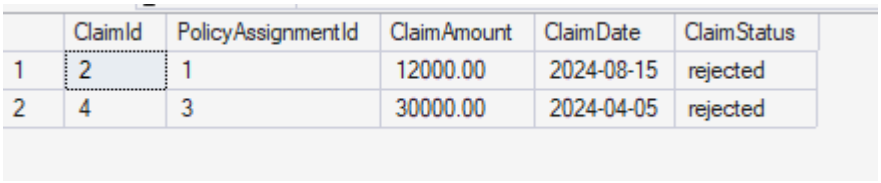


Results Messages

	CustomerId	FirstName	LastName	DateOfBirth	Phone	Email
1	1	Ravi	Kumar	2003-06-15	9876543210	ravi@gmail.com
2	2	Anita	Sharma	2005-09-20	9876543211	anita@gmail.com
3	3	Suresh	Reddy	2001-02-10	9876543212	suresh@gmail.com
4	4	Priya	Mehta	2010-11-18	9876543213	priya@gmail.com
5	5	Amit	Verma	2008-01-05	9876543214	amit@gmail.com

4.10 Display claims data where claim status is Rejected.

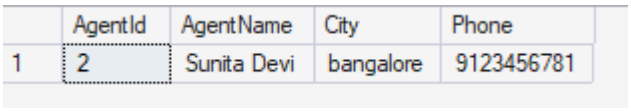
```
select *
from claims
where claimstatus = 'rejected';
```



	ClaimId	PolicyAssignmentId	ClaimAmount	ClaimDate	ClaimStatus
1	2	1	12000.00	2024-08-15	rejected
2	4	3	30000.00	2024-04-05	rejected

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

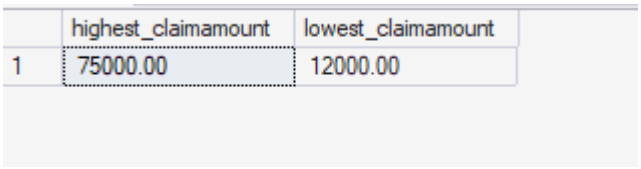
```
select *
from agents
where city like '_a%';
```



	AgentId	AgentName	City	Phone
1	2	Sunita Devi	bangalore	9123456781

4.12 Display highest and lowest claimamount from claims table

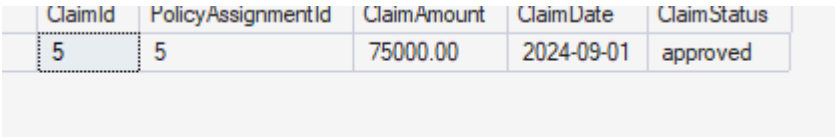
```
select
    max(claimamount) as highest_claimamount,
    min(claimamount) as lowest_claimamount
from claims;
```



	highest_claimamount	lowest_claimamount
1	75000.00	12000.00

4.13 Display latest claim record

```
select top 1 *
from claims
order by claimdate desc;
```



ClaimId	PolicyAssignmentId	ClaimAmount	ClaimDate	ClaimStatus
5	5	75000.00	2024-09-01	approved

4.14 Increase premium amount to 10% for all health insurance policies

```
update policies
set premiumamount = premiumamount * 1.10
where policytype = 'health';

select * from policies;
```

	PolicyId	PolicyName	PolicyType	PremiumAmount	DurationYears
1	1	Health Secure	health	13200.00	1
2	2	Life Protect	life	25000.00	10
3	3	Motor Safe	motor	8000.00	1
4	4	Health Plus	health	19800.00	2
5	5	Life Smart	life	15000.00	1

4.15 Delete the record of PolicyAssignments whose EndDate is before today

```
delete from claims
where policyassignmentid in (
    select policyassignmentid
    from policyassignments
    where enddate < cast(getdate() as date)
);

delete from policyassignments
where enddate < cast(getdate() as date);
```

	PolicyAssignmentId	CustomerId	PolicyId	AgentId	StartDate	EndDate
Click to select all grid cells			2	2	2023-06-15	2033-06-15
2	5	5	5	4	2024-05-05	NULL

4.16 Display number of claims rejected

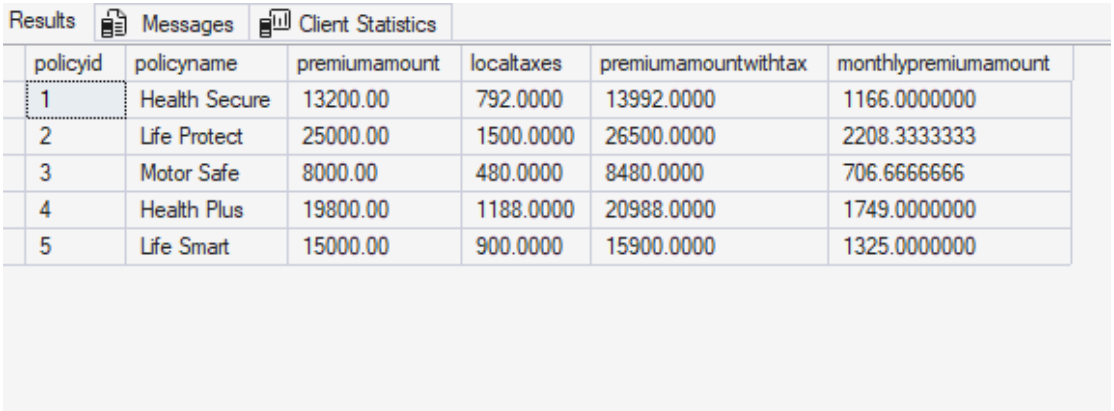
```
select count(*) as rejected_claims_count
from claims
where claimstatus = 'rejected';
```

	rejected_claims_count
1	0

4.17 Display PolicyId, PolicyName, PremiumAmount along with computed fields not in table a 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 + (premiumamount * 0.06)) / 12 as
monthlypremiumamount
from policies;
```



Results | Messages | Client Statistics

policyid	policyname	premiumamount	localtaxes	premiumamountwithtax	monthlypremiumamount
1	Health Secure	13200.00	792.0000	13992.0000	1166.0000000
2	Life Protect	25000.00	1500.0000	26500.0000	2208.3333333
3	Motor Safe	8000.00	480.0000	8480.0000	706.6666666
4	Health Plus	19800.00	1188.0000	20988.0000	1749.0000000
5	Life Smart	15000.00	900.0000	15900.0000	1325.0000000

4.18 Write a command to add Address and City columns in the Customers table

```
alter table customers
add address varchar(200),
    city varchar(50);

select * from customers;
```

CustomerId	FirstName	LastName	DateOfBirth	Phone	Email	address	city
1	Ravi	Kumar	2003-06-15	9876543210	ravi@gmail.com	NULL	NULL
2	Anita	Sharma	2005-09-20	9876543211	anita@gmail.com	NULL	NULL
3	Suresh	Reddy	2001-02-10	9876543212	suresh@gmail.com	NULL	NULL
4	Priya	Mehta	2010-11-18	9876543213	priya@gmail.com	NULL	NULL
5	Amit	Verma	2008-01-05	9876543214	amit@gmail.com	NULL	NULL

4.19 Write a command to add a new column named DevOfId (DevelopmentOfficerId) in Agents table

```
alter table agents
add devofid int;
```

	AgentId	AgentName	City	Phone	devofid
1	1	Rajesh Rao	hyderabad	9123456780	NULL
2	2	Sunita Devi	bangalore	9123456781	NULL
3	3	Mahesh Patel	ahmedabad	9123456782	NULL
4	4	Anil Kumar	chennai	9123456783	NULL
5	5	Kavya Nair	kochi	9123456784	NULL

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

```
alter table agents
add constraint fk_agents_devofid
foreign key (devofid)
references agents(agentid);
```

Check, result should be error

```
update agents
set devofid = 999
where agentid = 3;
```

```
Msg 547, Level 16, State 0, Line 1
The UPDATE statement conflicted with the FOREIGN KEY SAME TABLE constraint "fk_agents_devofid". The conflict occurred in database "I
The statement has been terminated.

Completion time: 2025-12-29T22:46:34.1796687+05:30
```

5.1 List all Policies for a CustomerId 5.

```
select p.policyid, p.policyname, p.policytype,
p.premiumamount
from policies p
join policyassignments pa
  on p.policyid = pa.policyid
where pa.customerid = 5;
```

	policyid	policyname	policytype	premiumamount
1	5	Life Smart	life	15000.00

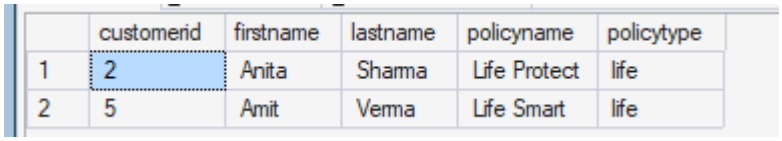
5.2 View all customers with their policies

```
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	2	Anita	Sharma	Life Protect	life
2	5	Amit	Verma	Life Smart	life

5.3View claims with customer name

```
select
    c.firstname,
    c.lastname,
    cl.claimid,
    cl.claimamount,
    cl.claimstatus,
    cl.claimdate
```

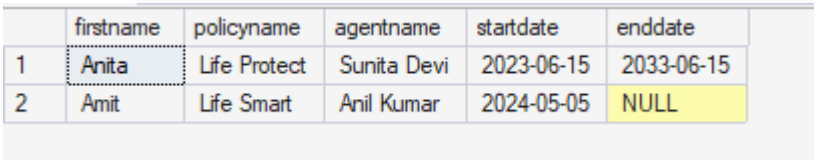
```
from customers c
join policyassignments pa
  on c.customerid = pa.customerid
join claims cl
  on pa.policyassignmentid = cl.policyassignmentid;
```

	firstname	lastname	claimid	claimamount	claimstatus	claimdate
1	Anita	Sharma	3	60000.00	approved	2024-01-20
2	Amit	Verma	5	75000.00	approved	2024-09-01

5.4 Display firstname, policyname, agentname, startdate and enddate

```
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	Anita	Life Protect	Sunita Devi	2023-06-15	2033-06-15
2	Amit	Life Smart	Anil Kumar	2024-05-05	NULL

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

```
select
    c.firstname,
    p.policyname,
    cl.claimamount,
    cl.claimstatus,
    cl.claimdate
from customers c
join policyassignments pa
  on c.customerid = pa.customerid
join policies p
  on pa.policyid = p.policyid
join claims cl
```

```
  on pa.policyassignmentid = cl.policyassignmentid;
```

	firstname	policyname	claimamount	claimstatus	claimdate
1	Anita	Life Protect	60000.00	approved	2024-01-20
2	Amit	Life Smart	75000.00	approved	2024-09-01

5.6 Display records of Customers with or without Policies

```
select
    c.customerid,
    c.firstname,
    c.lastname,
    p.policyname
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
1	1	Ravi	Kumar	NULL
2	2	Anita	Sharma	Life Protect
3	3	Suresh	Reddy	NULL
4	4	Priya	Mehta	NULL
5	5	Amit	Verma	Life Smart

5.7 Display all Customers with NO Claims

```
select
    c.customerid,
    c.firstname,
    c.lastname
```

```
from customers c
left join policyassignments pa
  on c.customerid = pa.customerid
left join claims cl
  on pa.policyassignmentid = cl.policyassignmentid
where cl.claimid is null;
```

	customerid	firstname	lastname
1	1	Ravi	Kumar
2	3	Suresh	Reddy
3	4	Priya	Mehta

5.8 Show CustomerName with Total Claim Amount per Customer

```
select
    c.customerid,
    c.firstname,
    sum(cl.claimamount) as total_claim_amount
from customers c
join policyassignments pa
  on c.customerid = pa.customerid
join claims cl
  on pa.policyassignmentid = cl.policyassignmentid
group by c.customerid, c.firstname;
```

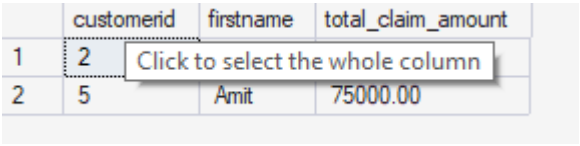
Results | Messages | Client Statistics

	customerid	firstname	total_claim_amount
1	2	Anita	60000.00
2	5	Amit	75000.00

Click to select the whole column

5.9 Show names and total claim amount of customers with claim amount > 50000 (using having)

```
select
    c.customerid,
    c.firstname,
    sum(cl.claimamount) as total_claim_amount
from customers c
join policyassignments pa
  on c.customerid = pa.customerid
join claims cl
  on pa.policyassignmentid = cl.policyassignmentid
group by c.customerid, c.firstname
having sum(cl.claimamount) > 50000;
```



5.10 Display list with Agent-wise Policy Count

```
select
    a.agentid,
    a.agentname,
    count(pa.policyassignmentid) as policy_count
from agents a
left join policyassignments pa
  on a.agentid = pa.agentid
group by a.agentid, a.agentname;
```

	agentid	agentname	policy_count
1	1	Rajesh Rao	0
2	2	Sunita Devi	1
3	3	Mahesh Patel	0
4	4	Anil Kumar	1
5	5	Kavya Nair	0