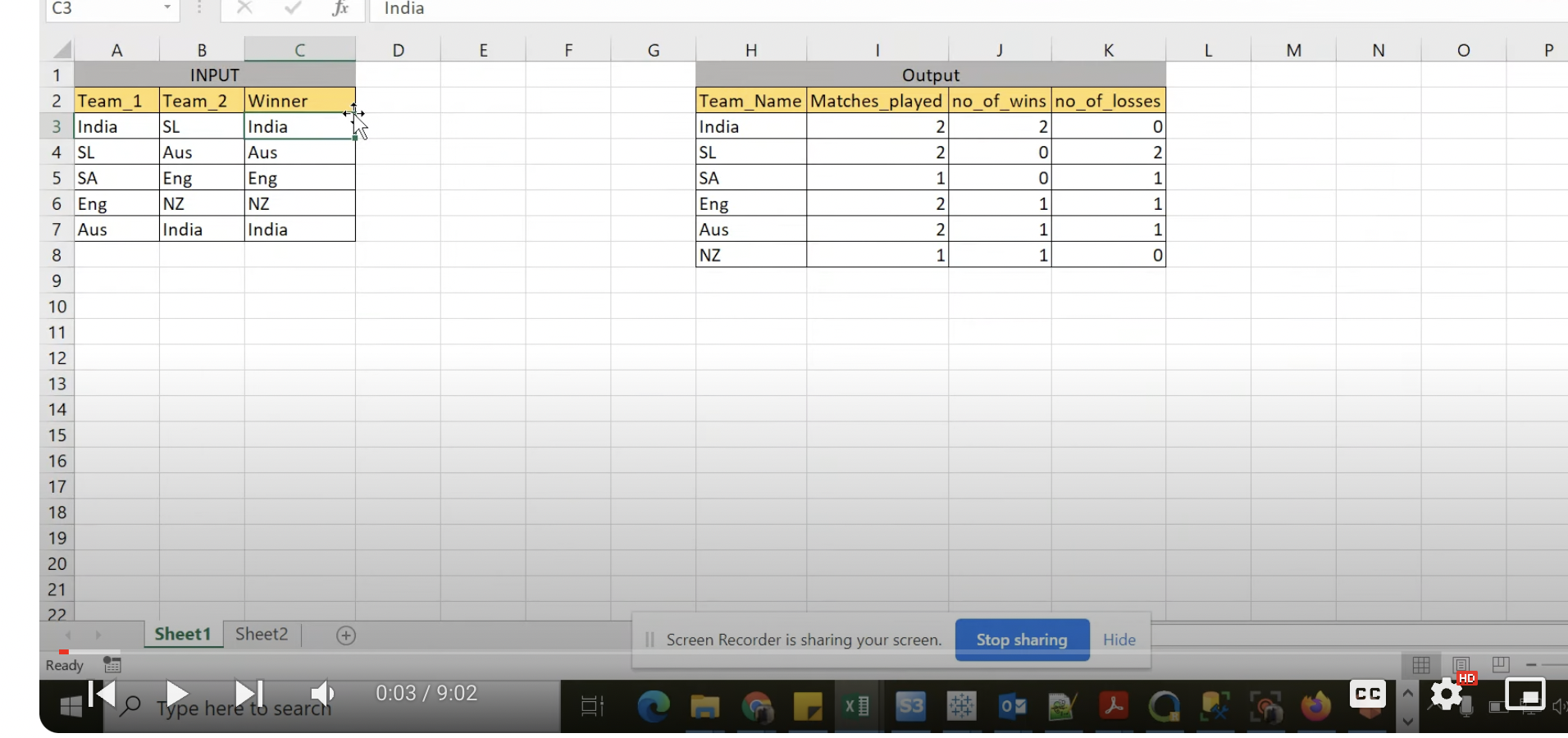
SQL problems:

1.



create table icc\_world\_cup

(

Team\_1 Varchar(20),

Team\_2 Varchar(20),

Winner Varchar(20)

);

INSERT INTO icc\_world\_cup values('India','SL','India');

INSERT INTO icc\_world\_cup values('SL','Aus','Aus');

INSERT INTO icc\_world\_cup values('SA','Eng','Eng');

INSERT INTO icc\_world\_cup values('Eng','NZ','NZ');

INSERT INTO icc\_world\_cup values('Aus','India','India');

--select \* from icc\_world\_cup;

; with cte(team\_name, win\_flag) as (

select team\_1, case when team\_1 = winner then 1 else 0 end as win\_flag

from icc\_world\_cup

union all

select team\_2 , case when team\_2 = winner then 1 else 0 end as win\_flag

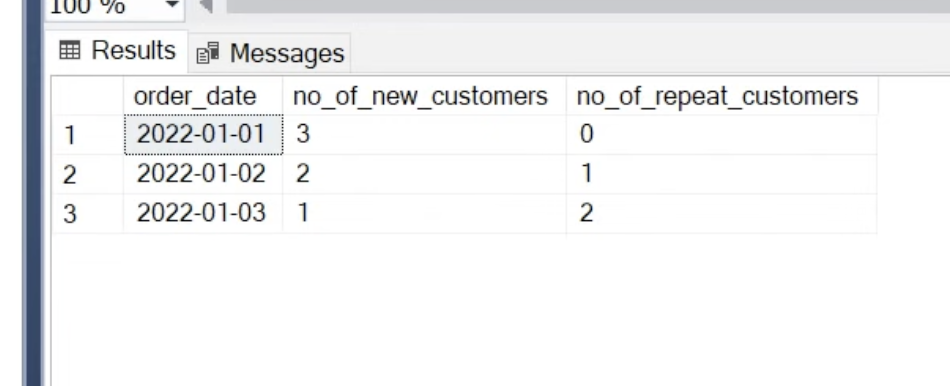
from icc\_world\_cup)

select team\_name, count(1) as no\_of\_matches\_played, sum(win\_flag) as no\_of\_matches\_won, count(1) - sum(win\_flag) as no\_of\_matches\_lost

from cte

group by team\_name;

2.



create table customer\_orders (

order\_id integer,

customer\_id integer,

order\_date date,

order\_amount integer

);

select \* from customer\_orders

insert into customer\_orders values(1,100,cast('2022-01-01' as date),2000),(2,200,cast('2022-01-01' as date),2500),(3,300,cast('2022-01-01' as date),2100)

,(4,100,cast('2022-01-02' as date),2000),(5,400,cast('2022-01-02' as date),2200),(6,500,cast('2022-01-02' as date),2700)

,(7,100,cast('2022-01-03' as date),3000),(8,400,cast('2022-01-03' as date),1000),(9,600,cast('2022-01-03' as date),3000)

;

**Solution 1:**

;with cte (order\_date, r) as (

select order\_date, rank() over (partition by customer\_id order by order\_date) r from customer\_orders

),

cte1 as (

select order\_date, case when r =1 then 1 else 0 end as new\_flag , case when r >1 then 1 else 0 end as repeat\_flag from cte

)

select order\_date, sum(new\_flag) as new\_customers, sum(repeat\_flag) as repeat\_customers

from cte1 group by order\_date;

**Solution 2:**

;with cte as (

select customer\_id, min(order\_date) as first\_visit\_date from customer\_orders

group by customer\_id

)

,

cte1 as (

select co.\*, case when c.first\_visit\_date = co.order\_date then 1 else 0 end as new\_flag,

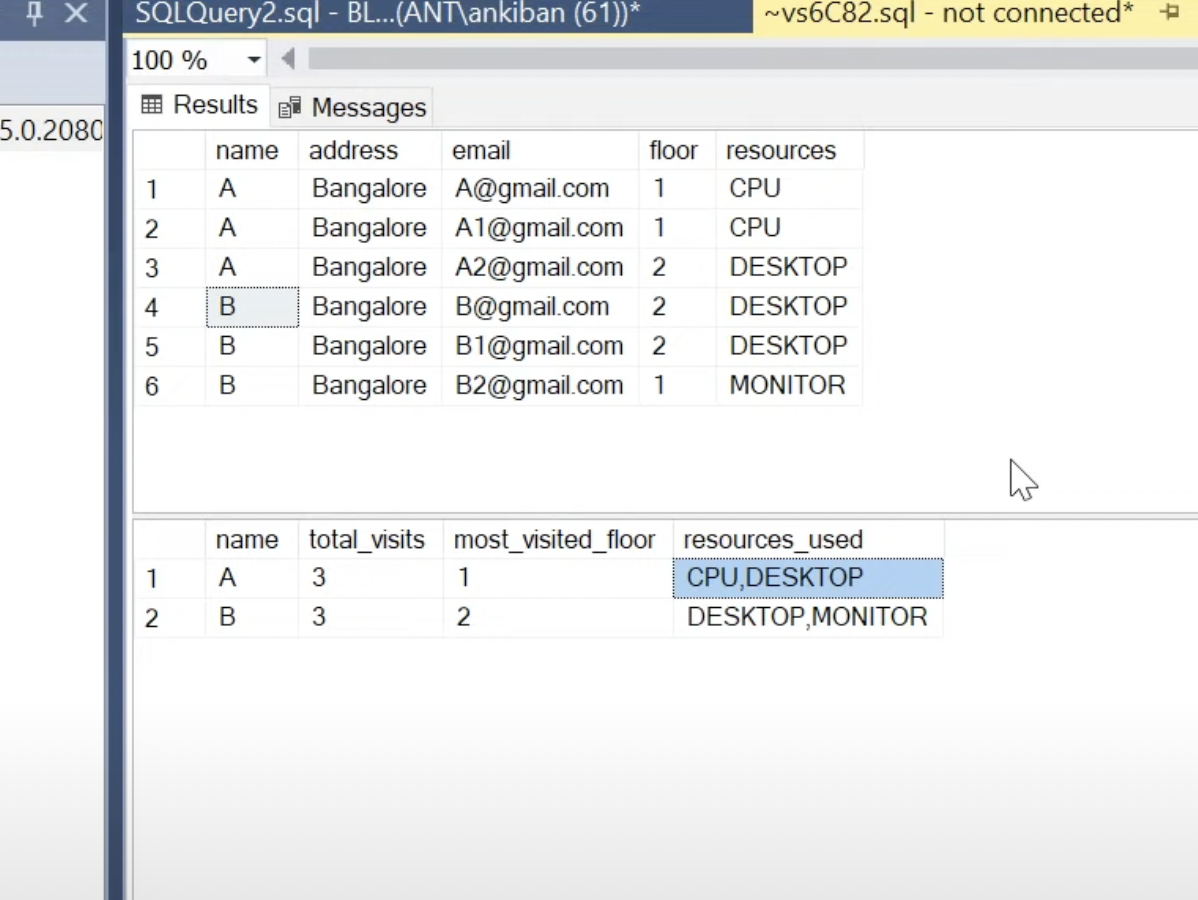
case when c.first\_visit\_date != co.order\_date then 1 else 0 end as repeat\_flag

from customer\_orders co join cte c on co.customer\_id = c.customer\_id )

select order\_date, sum(new\_flag) as new\_customers, sum(repeat\_flag) as repeat\_customers

from cte1 group by order\_date;

3.



create table entries (

name varchar(20),

address varchar(20),

email varchar(20),

floor int,

resources varchar(10));

insert into entries

values ('A','Bangalore','A@gmail.com',1,'CPU'),('A','Bangalore','A1@gmail.com',1,'CPU'),('A','Bangalore','A2@gmail.com',2,'DESKTOP')

,('B','Bangalore','B@gmail.com',2,'DESKTOP'),('B','Bangalore','B1@gmail.com',2,'DESKTOP'),('B','Bangalore','B2@gmail.com',1,'MONITOR')

;WITH cte as (SELECT name, resources from entries group by name, resources),

cte1 as (select name, string\_agg(resources, ',') as resources\_used from cte group by name),

cte2 as (select name, floor, rank() over (partition by floor order by count(1) desc) rn from

entries group by name, floor),

cte3 as (select name, count(1) as no\_of\_total\_visits from entries group by name)

select cte3.name, cte3.no\_of\_total\_visits, cte2.floor as most\_visited\_floor, cte1.resources\_used

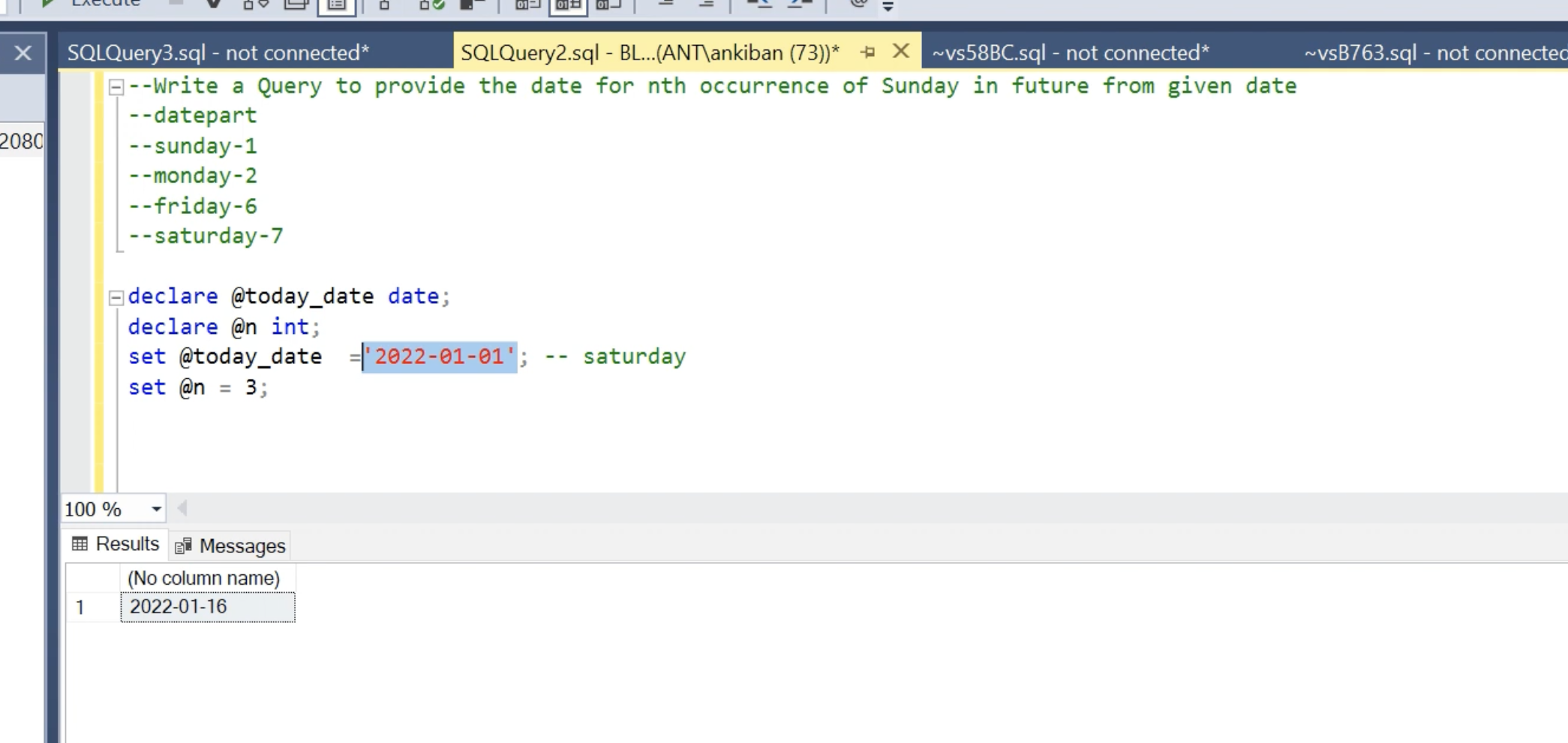
from cte3

inner join cte2 on cte3.name = cte2.name

inner join cte1 on cte3.name = cte1.name

where rn=1

4.



declare @d date;

declare @n int;

set @d = '2024-03-03';

set @n = 4; (**nth occurrence of Sunday after d**)

select dateadd(week, @n-1, dateadd(day, 8-datepart(weekday, @d), @d))

5. pareto principle

Create table orders (

Row\_ID int,

Order\_ID varchar (20)

,Order\_Date varchar(50)

,Ship\_Date varchar(50)

,Customer\_ID varchar(20) ,Region varchar(50) ,Product\_ID varchar(50),Category varchar(50)

,Sub\_Category varchar(50) ,Sales float

,Quantity float,Discount float ,Profit float

)

insert into orders values

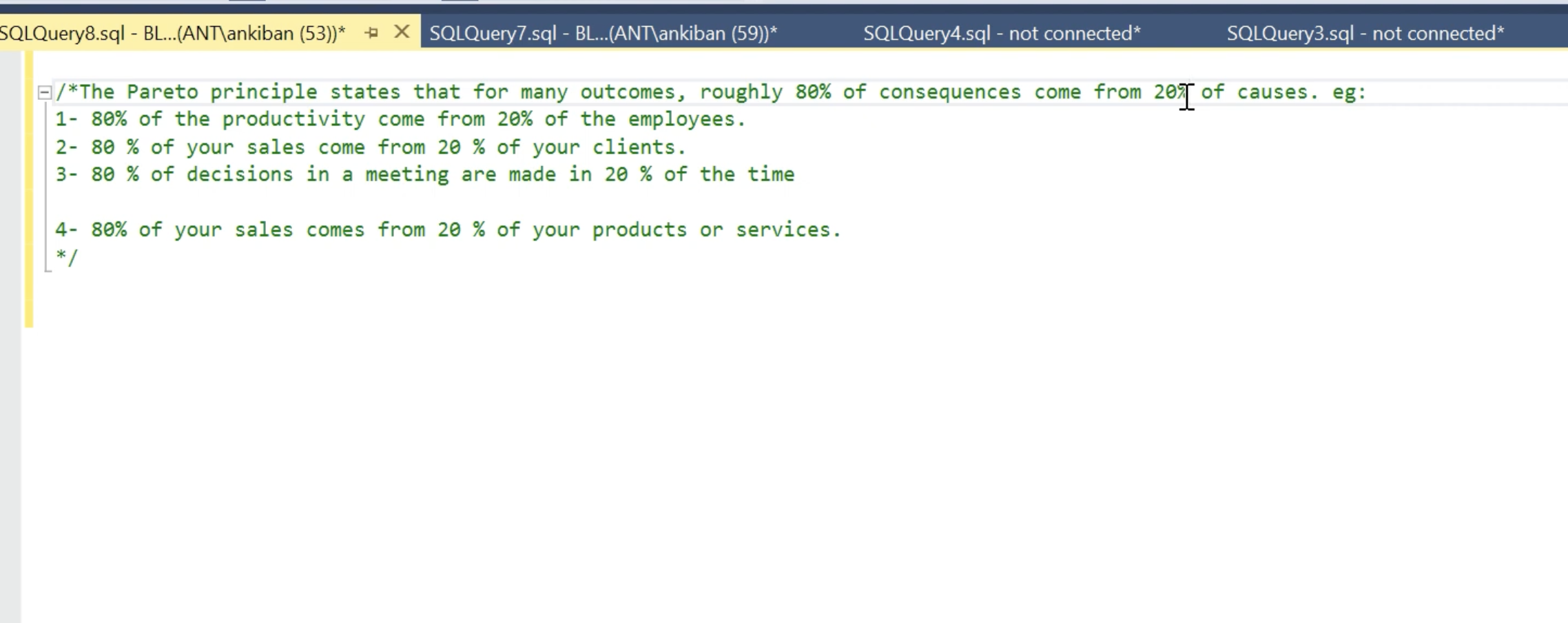
(1, 'CA-2020-152156', '08/11/20', '11/11/20', 'CG-12520', 'South', 'FUR-BO-10001798', 'Furniture', 'Bookcases', 261.96, 2, 0, 41.9136),

(2, 'CA-2020-152156', '08/11/20', '11/11/20', 'CG-12520', 'South', 'FUR-CH-10000454', 'Furniture', 'Chairs', 731.94 ,3 ,0 ,219.582),

(3, 'CA-2020-138688', '12/06/20', '16/06/20', 'DV-13045', 'West', 'OFF-LA-10000240', 'Office Supplies', 'Labels' ,14.62 ,2 ,0, 6.8714),

(4, 'US-2019-108966', '11/10/19', '18/10/19', 'SO-20335', 'South', 'FUR-TA-10000577', 'Furniture' ,'Tables', 957.5775, 5, 0.45, -383.031),

(5, 'US-2019-108966', '11/10/19', '18/10/19', 'SO-20335', 'South', 'OFF-ST-10000760', 'Office Supplies', 'Storage', 22.368, 2, 0.2, 2.5164)



;with cte as (select product\_id,sum(sales) as product\_sales

from orders

group by product\_id)

select \* from

(select \*,

sum(product\_sales) over(order by product\_sales desc) as running\_total

from cte) A

where running\_total<=(select 0.99\*sum(sales) as ninetynine\_percent\_sales from orders)