select \* from fact\_ticket

select \* from dim\_film

select \* from dim\_custome

-- Group by Film to analyze number\_order, revenue

with table1 AS ( select film

, count(orderid) as number\_order

, sum(total) as revenue

from fact\_ticket

group by film )

SELECT \*

, (select sum(number\_order) from table1) as total\_order

, (select sum(revenue) from table1) as total\_revenue

FROM table1

-- Calculate percentage of each films/total

with table\_1 as (

select distinct film

, count(orderid) over ( PARTITION BY film ) as film\_order

, sum(total) over (PARTITION by film) as film\_revenue

from fact\_ticket

)

, table\_2 as (

SELECT \*

, (select sum(film\_order) from table\_1) as total\_order

, (select sum(cast(film\_revenue as float)) from table\_1) as total\_revenue

from table\_1

)

select \*

, cast((CAST(film\_order as float)/total\_order) as decimal(10,2)) as pct\_order

, cast((CAST(film\_revenue as float)/total\_revenue) as decimal(10,2)) as pct\_revenue

from table\_2

-- Calculate percentage order,revenue by day

with table\_1 as (

select RIGHT(fact.[date], 2) AS day

, COUNT(orderid) as number\_order

, SUM(total) as revenue

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

GROUP by RIGHT(fact.[date], 2)

)

, table\_2 as (

select \*

, (select sum(number\_order) from table\_1) as total\_order

, (select sum(CAST(revenue as float)) from table\_1) as total\_revenue

from table\_1

)

SELECT \*

, cast(CAST(number\_order as float)/total\_order AS decimal(10,2)) as pct\_order

, cast(CAST(revenue as float)/total\_revenue AS decimal(10,2)) as pct\_revenue

FROM table\_2

ORDER BY [day] ASC

-- Calculate percentage order,revenue by slot\_type

with table\_1 as (

select slot\_type

, count( orderid) as number\_order

, sum(cast(total as float)) as revenue

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

group by slot\_type

)

, table\_2 as(

SELECT \*

, (select sum(number\_order) from table\_1) as total\_order

, (select sum(CAST(revenue as float)) from table\_1) as total\_revenue

from table\_1

)

SELECT \*

, cast(CAST(number\_order as float)/total\_order AS decimal(10,2)) as pct\_order

, cast(CAST(revenue as float)/total\_revenue AS decimal(10,2)) as pct\_revenue

FROM table\_2

-- Using Pivot table to distribute number\_order each film by day

with table\_1 as (

select RIGHT(fact.[date], 2) AS [day]

, fact.film as film

, count( orderid) as number\_order

, sum(cast(total as float)) as revenue

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

group by RIGHT(fact.[date], 2), fact.film

)

, table\_2 as(

SELECT \*

, sum(number\_order) over (partition by film) as total\_order

, sum(CAST(revenue as float)) over (partition by film) as total\_revenue

from table\_1

)

, table\_3 as (

SELECT \*

, cast(CAST(number\_order as float)/total\_order AS decimal(10,2)) as pct\_order

, cast(CAST(revenue as float)/total\_revenue AS decimal(10,2)) as pct\_revenue

FROM table\_2

--order by film, [day]

)

select film

, "01", "02", "03", "05", "06", "07", "08", "09", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", "31"

from (select film, number\_order,[day] from table\_3 ) as table\_4

PIVOT (

SUM (number\_order)

FOR [day] IN ( "01", "02", "03", "05", "06", "07", "08", "09", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", "31")

) AS logic\_pivot

-- Count average orders/times

with table\_1 as(

select distinct fact.film

, room

, fact.[date]

, [time]

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

--order by fact.film

)

, table\_2 as (

select distinct film

, count([date]) over (partition by film) as number\_times

, (select count([date]) from table\_1) as total\_times

from table\_1

)

, table\_3 as (

select fact.film

, count(orderid) as number\_order

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

group by fact.film

)

select table\_2.film, number\_order, number\_times, total\_times

, cast( cast(number\_times as float)/ total\_times as decimal(10,3)) as pct

, cast( cast(number\_order as float)/number\_times as decimal(10,2)) as avg\_order\_per\_times

from table\_2

full join table\_3

on table\_2.film = table\_3.film

order by avg\_order\_per\_times ASC

-- Order/times by day

with table\_1 as(

select distinct fact.film

, room

, fact.[date]

, [time]

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

--order by fact.film

)

, table\_2 as (

select distinct right([date], 2) as [day]

, count([date]) over (partition by right([date], 2)) as number\_times

, (select count([date]) from table\_1) as total\_times

from table\_1

)

, table\_3 as (

select right(fact.[date], 2) as [day]

, count(orderid) as number\_order

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

group by right(fact.[date], 2)

)

select table\_2.[day], number\_order, number\_times, total\_times

,cast( cast(number\_times as float)/ total\_times as decimal(10,3)) as pct

, cast( cast(number\_order as float)/number\_times as decimal(10,2)) as avg\_order\_per\_times

from table\_2

full join table\_3

on table\_2.[day] = table\_3.[day]

order by avg\_order\_per\_times ASC

-- Using Pivot table to find number of times each film by day

with table\_1 as(

select distinct fact.film

, room

, fact.[date]

, [time]

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

--order by fact.film

)

, table\_2 as (

select distinct film, right([date], 2) as [day]

, count([date]) over (partition by film, right([date], 2)) as number\_times

from table\_1

--order by [film], [day]

)

, table\_3 as (

select distinct fact.film

, right(fact.[date], 2) as [day]

, count(orderid) as number\_order

from fact\_ticket as fact

left join dim\_film as film

on fact.film = film.film

LEFT join dim\_customer as cus

on fact.customerid = cus.customerid

group by fact.film, right(fact.[date], 2)

--order by [film], [day]

)

, table\_4 as (

select distinct table\_2.film, table\_2.day, number\_times

from table\_2

left join table\_3

on table\_2.[film] = table\_3.[film]

--order by film, day ASC

)

select film

, "01", "02", "03", "05", "06", "07", "08", "09", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", "31"

from (select film, number\_times,[day] from table\_4 ) as table\_5

PIVOT (

SUM (number\_times)

FOR [day] IN ( "01", "02", "03", "05", "06", "07", "08", "09", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", "31")

) AS logic\_pivot

-- Find number\_order each films by room

with table\_1 as (

SELECT fact.film

, room

, COUNT(distinct orderid) AS number\_order

FROM fact\_ticket as fact

LEFT JOIN dim\_film AS film

ON fact.film = film.film

LEFT JOIN dim\_customer AS cus

ON fact.customerid = cus.customerid

GROUP by fact.film, room

-- ORDER BY film

)

select film

, "1" , "2", "3", "4"

from (select film, number\_order,[room] from table\_1 ) as table\_2

PIVOT (

SUM (number\_order)

FOR [room] IN ( "1" , "2", "3", "4")

) AS logic\_pivot

-- Using Pivot table to find number\_order each age

WITH table\_1 as (

SELECT fact.film, (2019-CAST(LEFT(DOB, 4) as float)) AS age

, count( orderid) AS number\_order

FROM fact\_ticket as fact

LEFT JOIN dim\_film AS film

ON fact.film = film.film

LEFT JOIN dim\_customer AS cus

ON fact.customerid = cus.customerid

where (2019-CAST(LEFT(DOB, 4) as float)) > 3 AND fact.customerid NOT in ('KH6166700', '0000029127','0001121703' )

GROUP by fact.film, (2019-CAST(LEFT(DOB, 4) as float))

--ORDER BY fact.film, age

)

, table\_2 as (

SELECT \*

, SUM(number\_order) OVER (PARTITION BY film) as film\_order

FROM table\_1

)

, table\_3 as (

SELECT \*

, cast(CAST(number\_order as float)/ film\_order as decimal(10,2)) as pct\_age

FROM table\_2

--ORDER BY film, age

)

select film

, "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", "31", "32", "33", "34", "35", "36", "37", "38", "39", "40", "41", "42", "43", "44", "45", "46", "47", "48", "49", "50"

from (select film, number\_order,[age] from table\_3 ) as table\_4

PIVOT (

SUM (number\_order)

FOR [age] IN ( "02", "03", "05", "06", "07", "08", "09", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", "31", "32", "33", "34", "35", "36", "37", "38", "39", "40", "41", "42", "43", "44", "45", "46", "47", "48", "49", "50")

) AS logic\_pivot

-- Using Pivot table to find number\_times each cashiers in charge

with table\_1 as (

SELECT distinct cashier, right(sales\_date\_extracted,2) AS [day], left(sales\_time\_extracted, 2) as [time]

FROM fact\_ticket as fact

LEFT JOIN dim\_film AS film

ON fact.film = film.film

LEFT JOIN dim\_customer AS cus

ON fact.customerid = cus.customerid

--ORDER BY cashier,[day]

)

, table\_2 as (

SELECT distinct cashier, [day]

, COUNT([time]) OVER (PARTITION by cashier, [day]) as working\_time

FROM table\_1

--ORDER BY cashier, [day]

)

select cashier

, "01", "02", "03", "05", "06", "07", "08", "09", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", "31"

from (select cashier, working\_time,[day] from table\_2 ) as table\_3

PIVOT (

SUM (working\_time)

FOR [day] IN ( "01", "02", "03", "05", "06", "07", "08", "09", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", "31")

) AS logic\_pivot

-- Cohort analysis by drawing heat map

WITH table\_1 AS (

SELECT fact.customerid , orderid, fact.date

, first\_day = MIN (DATEPART(DAY,fact.date ) ) OVER (PARTITION BY fact.customerid)

FROM fact\_ticket as fact

LEFT JOIN dim\_film AS film

ON fact.film = film.film

LEFT JOIN dim\_customer AS cus

ON fact.customerid = cus.customerid

WHERE fact.customerid not in ('KH6166700', '0000029127','0001121703' )

)

, table\_sub AS (

SELECT \*

, DATEPART(DAY,[date] ) - first\_day AS sub\_day

FROM table\_1

)

, table\_all AS (

SELECT first\_day AS acquisition\_day

, sub\_day AS subsequent\_day

, COUNT (distinct customerid) AS retained\_customers

FROM table\_sub

GROUP BY first\_day, sub\_day

-- ORDER BY acquisition\_day, subsequent\_day

)

, table\_rentention AS (

SELECT \*

, original\_customers = MAX (retained\_customers ) OVER ( PARTITION BY acquisition\_day)

, CAST ( retained\_customers AS DECIMAL) / MAX (retained\_customers ) OVER ( PARTITION BY acquisition\_day) AS pct

FROM table\_all

)

SELECT acquisition\_day, original\_customers

, "0", "1", "2", "3", "4", "5", "6", "7", "8", "9", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30", subsequent\_day

FROM (

SELECT acquisition\_day, subsequent\_day, original\_customers, CAST ( pct AS DECIMAL (10,2) ) AS pct

FROM table\_rentention

) AS source\_table

PIVOT (

SUM(pct)

FOR subsequent\_day IN ( "0", "1", "2", "3","4", "5", "6", "7", "8", "9", "10", "11", "12", "13", "14", "15", "16", "17", "18", "19", "20", "21", "22", "23", "24", "25", "26", "27", "28", "29", "30")

) AS logic\_pivot

ORDER BY acquisition\_day

-- Analyze the problems of 3 last weekdays

with table\_1 as (

select datepart(weekday,fact.[date]) as [weekday]

, right(fact.[date], 2) as [day]

, fact.orderid

, ticket\_price

FROM fact\_ticket as fact

LEFT JOIN dim\_film AS film

ON fact.film = film.film

LEFT JOIN dim\_customer AS cus

ON fact.customerid = cus.customerid

where (datepart(weekday,fact.[date]) ='5' or datepart(weekday,fact.[date])='6' or datepart(weekday,fact.[date])='7')

and right(fact.[date], 2) not like '03'

)

, table\_2 as (

SELECT [weekday]

, SUM(ticket\_price) as total

, COUNT( orderid) as num\_order

, COUNT(distinct [day]) as num\_day

FROM table\_1

GROUP by [weekday]

)

select [weekday] + 1 as [weekday]

, CAST(total as float)/num\_day as avg\_revenue

, cast(CAST(num\_order as float)/ num\_day AS DECIMAL(10,0)) as avg\_order

from table\_2