**ANNUAL CUSTOMER ACTIVITY GROWTH**

**Task 1: Total Monthly Users**

select

count(distinct c.customer\_unique\_id) as monthly\_users,

extract (month from o.order\_purchase\_timestamp) as trx\_month,

extract (year from o.order\_purchase\_timestamp) as trx\_year

from orders o

join customers c on o.customer\_id = c.customer\_id

group by 2,3

order by 3;

**Task 2: Monthly Average Users by Year**

select

yr,

round(avg(monthly\_users), 0) as average\_mau

from (

select

count(distinct c.customer\_unique\_id) as monthly\_users,

extract (month from o.order\_purchase\_timestamp) as mnth,

extract (year from o.order\_purchase\_timestamp) as yr

from orders o

join customers c on o.customer\_id = c.customer\_id

group by 2,3

order by 3

) monthly\_subq

group by 1;

**Task 3: New Customer Each Year**

select

count (distinct customer\_unique\_id) as total\_customers,

extract (year from first\_order) as yr

from (

select

c.customer\_unique\_id,

min(o.order\_purchase\_timestamp) as first\_order

from orders o

join customers c on c.customer\_id = o.customer\_id

group by 1

) ord

group by 2;

**Task 4: Repeat Customer Each Year**

select

yr,

count(distinct customer\_unique\_id) as repeat

from (

select

c.customer\_unique\_id,

extract (year from order\_purchase\_timestamp) as yr,

count(2) as purchase\_frequency

from orders o

join customers c on c.customer\_id = o.customer\_id

group by 1, 2

having count(2) > 1

) freq\_subq

group by 1;

**Task 5: Average Order Each Year**

select

yr,

round(avg(purchase\_frequency),4) as avg\_orders\_per\_customers

from (

select

c.customer\_unique\_id,

extract (year from order\_purchase\_timestamp) as yr,

count(2) as purchase\_frequency

from orders o

join customers c on c.customer\_id = o.customer\_id

group by 1, 2

) freq\_subq

group by 1

**Task 5: Summary Table**

with

mau\_table as (

select

yr,

round(avg(monthly\_users), 0) as average\_mau

from (

select

count(distinct c.customer\_unique\_id) as monthly\_users,

extract (month from o.order\_purchase\_timestamp) as mnth,

extract (year from o.order\_purchase\_timestamp) as yr

from orders o

join customers c on o.customer\_id = c.customer\_id

group by 2,3

order by 3

) monthly\_subq

group by 1),

new\_cust\_table as(

select count (distinct customer\_unique\_id) as total\_customers,

extract (year from first\_order) as yr

from (

select

c.customer\_unique\_id,

min(o.order\_purchase\_timestamp) as first\_order

from orders o

join customers c on c.customer\_id = o.customer\_id

group by 1

) ord

group by 2),

repeat\_order\_table as(

select

yr,

count(distinct customer\_unique\_id) as repeat

from (

select

c.customer\_unique\_id,

extract (year from order\_purchase\_timestamp) as yr,

count(2) as purchase\_frequency

from orders o

join customers c on c.customer\_id = o.customer\_id

group by 1, 2

having count(2) > 1

) freq\_subq

group by 1),

avg\_order\_table as(

select

yr,

round(avg(purchase\_frequency),4) as avg\_orders\_per\_customers

from (

select

c.customer\_unique\_id,

extract (year from order\_purchase\_timestamp) as yr,

count(2) as purchase\_frequency

from orders o

join customers c on c.customer\_id = o.customer\_id

group by 1, 2

) freq\_subq

group by 1)

select

mau\_table.yr as year,

mau\_table.average\_mau,

new\_cust\_table.total\_customers as new\_customers,

repeat\_order\_table.repeat as repeat\_customers,

avg\_order\_table.avg\_orders\_per\_customers

from mau\_table

join new\_cust\_table on mau\_table.yr = new\_cust\_table.yr

join repeat\_order\_table on repeat\_order\_table.yr = mau\_table.yr

join avg\_order\_table on avg\_order\_table.yr = mau\_table.yr

**ANNUAL PRODUCT CATEGORY QUALITY**

**Create Monetary Value Table**

create table monetary\_value as

select a.order\_id, a.product\_id,

a.price-freight\_value as monetary, extract(year from b.order\_purchase\_timestamp) as yr

from order\_items a

inner join orders b on a.order\_id = b.order\_id

where b.order\_status in ('invoiced', 'delivered')

**Create Canceled Order Table**

create table canceled\_order as

select order\_id, customer\_id, extract(year from order\_purchase\_timestamp) as yr

from orders

where order\_status = 'canceled'

**Create Name of Product Table**

create table name\_of\_product as

select oi.order\_id, oi.product\_id, p.product\_id\_name as product\_name

from order\_items oi

inner join product p on oi.product\_id = p.product\_id

**Task 1: Yearly Revenue**

select

count(order\_id) as total\_customers,

sum(monetary) gmv,

yr as year\_of\_sales

from monetary\_value

group by 3

order by 3

**Task 2: Canceled Order by Year**

select

count(order\_id) as total\_orders,

extract(year from order\_purchase\_timestamp) as year\_of\_sale

from

orders

where order\_status = 'canceled'

group by 2

order by 2

**Task 3: Order Status by Year**

select

count(order\_id) as total\_orders,

order\_status,

extract(year from order\_purchase\_timestamp) as year\_of\_sale

from

orders

group by 2,3

order by 2,3

**Task 4: Rank of Product Category**

select

product\_id\_name,

total,

yr,

rank() over (partition by yr order by total DESC)

from (

select

c.product\_id\_name,

sum(d.monetary) as total,

d.yr

from product c

inner join monetary\_value d on c.product\_id=d.product\_id

group by 1,3

) mv

group by 1,2,3

order by 4,3

**Task 5: Rank of Canceled Product Category**

select

count(co.order\_id) as total\_canceled\_orders,

nop.product\_name,

co.yr,

rank() over (partition by yr order by count(co.order\_id) DESC)

from name\_of\_product nop

inner join canceled\_order co on nop.order\_id = co.order\_id

group by 2,3

order by 4,3

**ANNUAL PAYMENT TYPE USAGE**

**Create List Customer Payment Table**

create table payment\_customer as

select

op.order\_id,

o.customer\_id,

payment\_sequential,

payment\_type,

payment\_installments,

payment\_value,

o.order\_purchase\_timestamp

from order\_payments op

join orders o on op.order\_id=o.order\_id

**Task 1: Most Payment Type Used**

select

payment\_type,

count(1) as total\_used

from

payment\_customer

group by 1

order by 2 DESC

**Task 2: Payment Type Information**

select

extract(year from order\_purchase\_timestamp) as yr,

case when payment\_type like 'not\_defined' then 'Not Defined'

when payment\_type like 'boleto' then 'Boleto'

when payment\_type like 'debit\_card' then 'Debit Card'

when payment\_type like 'voucher' then 'Voucher'

when payment\_type like 'credit\_card' then 'Credit Card'

end as type\_payment,

count(customer\_id) as total\_customers,

count(customer\_id) - count(distinct customer\_id) as total\_repeat\_payment\_type,

avg(payment\_value) as average\_value,

max(payment\_value) as max\_value,

PERCENTILE\_CONT(0.5) WITHIN GROUP(ORDER BY payment\_sequential) as median\_payment\_sequential,

PERCENTILE\_CONT(0.5) WITHIN GROUP(ORDER BY payment\_installments) as median\_payment\_installments,

max(payment\_sequential) as max\_payment\_sequential,

max(payment\_installments) as max\_payment\_installments

from

payment\_customer

group by 1,2

order by 1,3 DESC