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-- Tính toán các chỉ số RFM
create temporary table table_final as(
with cte as(
select id,
      '2022-09-01'-max(purchase_date) as recency,
      count(distinct(purchase_date))/
        (extract(epoch from('2022-09-01'::timestamp-
create_date::timestamp)) /(365.25*24*60*60)) as frequency,
      sum(gmv)/(extract(epoch from('2022-09-01'::timestamp-
create_date::timestamp))
        /(365.25*24*60*60)) as monetary,
      row_number() over (order by ('2022-09-01'-max(purchase_date))) as
rw_recency,
      row_number() over (order by(count(distinct(purchase_date))/
        (extract(epoch from('2022-09-01'::timestamp-
create_date::timestamp)) /(365.25*24*60*60)))) as rw_frequency,
      row_number() over (order by(sum(gmv)/
        (extract(epoch from('2022-09-01'::timestamp-
create_date::timestamp)) /(365.25*24*60*60)))) as rw_monetary
From customer_registered as reg
inner join customer_transaction as tran on reg.id=tran.customer_id
group by id)

select *,
case
  when recency >= (select recency from cte where rw_recency=1)
  and recency < (select recency from cte
    where rw_recency=(select cast(count(distinct(rw_recency))*0.25 as
int)from cte)) then 4
  when recency >= (select recency from cte
    where rw_recency=(select cast(count(distinct(rw_recency))*0.25 as
int)from cte))
  and recency < (select recency from cte
    where rw_recency=(select cast(count(distinct(rw_recency))*0.5 as
int)from cte)) then 3
  when recency >= (select recency from cte
    where rw_recency=(select cast(count(distinct(rw_recency))*0.5 as
int)from cte))
  and recency < (select recency from cte
    where rw_recency=(select cast(count(distinct(rw_recency))*0.75 as
int)from cte)) then 2
else 1 end as r,
case
  when frequency >= (select frequency from cte where
rw_frequency=1)
  and frequency < (select frequency from cte

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        where rw_frequency=(select
cast(count(distinct(rw_frequency))*0.25 as int)from cte)) then 1
        when frequency >= (select frequency from cte
        where rw_frequency=(select
cast(count(distinct(rw_frequency))*0.25 as int)from cte))
        and frequency < (select frequency from cte
        where rw_frequency=(select cast(count(distinct(rw_frequency))*0.5
as int)from cte)) then 2
        when frequency >= (select frequency from cte
        where rw_frequency=(select cast(count(distinct(rw_frequency))*0.5
as int)from cte))
        and frequency < (select frequency from cte
        where rw_frequency=(select
cast(count(distinct(rw_frequency))*0.75 as int)from cte)) then 3
    else 4 end as f,
case
    when monetary >= (select monetary from cte where rw_monetary=1)
    and monetary < (select monetary from cte
    where rw_monetary=(select cast(count(distinct(rw_monetary))*0.25
as int)from cte)) then 1
    when monetary >= (select monetary from cte
    where rw_monetary=(select cast(count(distinct(rw_monetary))*0.25
as int)from cte))
    and monetary < (select monetary from cte
    where rw_monetary=(select cast(count(distinct(rw_monetary))*0.5
as int)from cte)) then 2
    when monetary >= (select monetary from cte
    where rw_monetary=(select cast(count(distinct(rw_monetary))*0.5
as int)from cte))
    and monetary< (select monetary from cte
    where rw_monetary=(select cast(count(distinct(rw_monetary))*0.75
as int)from cte)) then 3
    else 4 end as m
from cte)

-- Định danh các khách hàng
with cte as(
select *,concat(r,f,m)::integer as rfm from table_final)
select *,case
    when rfm in (344,234,334,244) then 'vip'
    when rfm in (233,333,343,232,332,243) then 'trung_thanh'
    when rfm in (222,322,321,223,323) then 'tiem_nang'
    when rfm in (133,132,143,134,123,144) then 'sap_roi_bo'
    when rfm in (111,311,211,122,121,112,221,212,312) then 'vang_lai'
    else 'other' end as phan_loai

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from cte