with first\_payments as

(

select user\_id

, min (date\_trunc ('day', transaction\_datetime) ) as first\_payment\_date

from SKYENG\_DB.payments

where status\_name = 'success'

group by 1

order by 1 asc

),

all\_dates as

(

select distinct date\_trunc('day', class\_start\_datetime) dt

from skyeng\_db.classes

where class\_start\_datetime >= '2016-01-01 00:00' and class\_start\_datetime < '2017-01-01 00:00'

order by 1 asc

)

,

payments\_by\_dates as

(

select user\_id

, date\_trunc('day', transaction\_datetime) as payment\_date

, sum(classes) as transaction\_balance\_change

from skyeng\_db.payments

where status\_name = 'success'

group by 1, 2

order by 1

),

all\_dates\_by\_user as

(

select user\_id, dt

from all\_dates d

left join first\_payments p

on d.dt >= p.first\_payment\_date

),

classes\_by\_dates as (select user\_id, class\_date

, count (id\_class) \* (-1) classes

from

(select \*,

date\_trunc ('day', class\_start\_datetime) as class\_date

from skyeng\_db.classes) t

where class\_status in ('success', 'failed\_by\_student') and class\_type != 'trial'

group by user\_id, class\_date)

,

payments\_by\_dates\_cumsum as

(

select a.user\_id

,a.dt

,transaction\_balance\_change

,sum (case when transaction\_balance\_change is null then 0 else transaction\_balance\_change end) over (partition by a.user\_id order by a.dt ROWS BETWEEN UNBOUNDED PRECEDING and current row) transaction\_balance\_change\_cs

from all\_dates\_by\_user a

left join payments\_by\_dates b on a.user\_id = b.user\_id

and a.dt = b.payment\_date

)

,

classes\_by\_dates\_dates\_cumsum as

(

select a.user\_id

,a.dt

,classes

,sum(case when classes is null then 0 else classes end) over (partition by a.user\_id order by a.dt ROWS BETWEEN UNBOUNDED PRECEDING and current row) classes\_cs

from all\_dates\_by\_user a

left join classes\_by\_dates b

on a.user\_id = b.user\_id

and a.dt = b.class\_date

order by a.dt

)

,

balances as

(

select a.user\_id

,a.dt

,transaction\_balance\_change

,transaction\_balance\_change\_cs

,classes

,classes\_cs

,classes\_cs + transaction\_balance\_change\_cs as balance

from classes\_by\_dates\_dates\_cumsum a

left join payments\_by\_dates\_cumsum b

on a.user\_id = b.user\_id

and a.dt = b.dt

order by 1 asc, 2 asc

)

select dt

,sum(transaction\_balance\_change) sum\_transaction\_balance\_change

,sum(transaction\_balance\_change\_cs) sum\_transaction\_balance\_change\_cs

,sum(classes) sum\_classes

,sum(classes\_cs) sum\_classes\_cs

,sum(balance) sum\_balance

from balances

group by 1

order by 1

limit 1000