with first\_payments as

(select

user\_id

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

from

(select

row\_number() over(partition by user\_id order by transaction\_datetime) as rn

,\*

from skyeng\_db.payments

where status\_name = 'success') as rn\_table

where rn = '1')

, all\_dates as

(select

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

from skyeng\_db.classes

order by dt)

, all\_dates\_by\_user as

(select

user\_id

,dt

from first\_payments

join all\_dates

on all\_dates.dt >= first\_payments.first\_payment\_date

where date\_trunc('year', dt) = '2016-01-01'

order by user\_id, dt)

, 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 user\_id, payment\_date

order by user\_id)

, payments\_by\_dates\_cumsum as

(select all\_dates\_by\_user.user\_id

,dt

,transaction\_balance\_change

,sum(coalesce(transaction\_balance\_change,0)) over (partition by all\_dates\_by\_user.user\_id order by dt) as transaction\_balance\_change\_cs

from all\_dates\_by\_user

left join payments\_by\_dates

on all\_dates\_by\_user.user\_id = payments\_by\_dates.user\_id

and all\_dates\_by\_user.dt = payments\_by\_dates.payment\_date

group by all\_dates\_by\_user.user\_id, dt, transaction\_balance\_change

order by all\_dates\_by\_user.user\_id)

, classes\_by\_dates as

( select user\_id

,date(class\_start\_datetime) as class\_date

,count (id\_class)\*-1 as cnt\_classes

from skyeng\_db.classes

where class\_status = 'success'

or class\_status = 'failed\_by\_student'

and class\_type !='trial'

group by user\_id, class\_date)

, classes\_by\_dates\_cumsum as

(select all\_dates\_by\_user.user\_id

,dt

,cnt\_classes

,sum(coalesce(cnt\_classes,0)) over (partition by all\_dates\_by\_user.user\_id order by dt) as classes\_cs

from all\_dates\_by\_user

left join classes\_by\_dates

on all\_dates\_by\_user.user\_id = classes\_by\_dates.user\_id

and all\_dates\_by\_user.dt = classes\_by\_dates.class\_date

group by all\_dates\_by\_user.user\_id, dt, cnt\_classes )

, balances as

(select payments\_by\_dates\_cumsum.user\_id

,payments\_by\_dates\_cumsum.dt

,transaction\_balance\_change

,transaction\_balance\_change\_cs

,cnt\_classes

,classes\_cs

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

from payments\_by\_dates\_cumsum

left join classes\_by\_dates\_cumsum

on payments\_by\_dates\_cumsum.user\_id = classes\_by\_dates\_cumsum.user\_id

and payments\_by\_dates\_cumsum.dt = classes\_by\_dates\_cumsum.dt

group by payments\_by\_dates\_cumsum.user\_id, payments\_by\_dates\_cumsum.dt,transaction\_balance\_change,transaction\_balance\_change\_cs, cnt\_classes, classes\_cs

order by payments\_by\_dates\_cumsum.user\_id, payments\_by\_dates\_cumsum.dt)

select

balances.dt

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

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

,sum(cnt\_classes) as sum\_cnt\_classes

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

,sum(balance) as sum\_balances

from balances

group by balances.dt

order by balances.dt