with first\_payments as

(

select user\_id

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

from skyeng\_db.payments

where status\_name = 'success'

group by 1

order by 1

),

all\_dates as

(

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

from skyeng\_db.classes

where date\_trunc('year', class\_start\_datetime) = '2016-01-01'

),

all\_dates\_by\_user as

(

select user\_id, dt

from first\_payments f

join all\_dates d on d.dt >= f.first\_payment\_date

),

payments\_by\_dates as

(

select user\_id, date\_trunc('day', transaction\_datetime) payment\_date,

sum (classes) transaction\_balance\_change

from skyeng\_db.payments

where status\_name = 'success'

group by 1,2

order by 1

),

payments\_by\_dates\_cumsum as

(

select a.user\_id, dt, transaction\_balance\_change,

sum (p.transaction\_balance\_change) over (partition by a.user\_id order by a.dt) transaction\_balance\_change\_cs

from all\_dates\_by\_user a

left join payments\_by\_dates p on a.user\_id=p.user\_id and a.dt=p.payment\_date

),

classes\_by\_dates as

(

select user\_id

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

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

from skyeng\_db.classes

where class\_status in ('success','failed\_by\_student')

and class\_type != 'trial'

group by 1,2

order by 1

),

classes\_by\_dates\_cumsum as

(

select a.user\_id, a.dt, classes,

sum (coalesce(classes,0)) over (partition by a.user\_id order by a.dt) classes\_cs

from all\_dates\_by\_user a

left join classes\_by\_dates c on a.user\_id=c.user\_id and a.dt=c.class\_date

),

balance as

(

select p.user\_id, p.dt, p.transaction\_balance\_change, p.transaction\_balance\_change\_cs, c.classes, c.classes\_cs

, (c.classes\_cs + p.transaction\_balance\_change\_cs) balance

from payments\_by\_dates\_cumsum p

join classes\_by\_dates\_cumsum c on p.user\_id=c.user\_id and p.dt=c.dt

order by 1,2

)

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

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

, sum (classes) sum\_classes

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

, sum (balance) sum\_balance

from balance

group by 1

order by 1,2