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 user\_id

order by user\_id

),

all\_dates as

(

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

from skyeng\_db.classes

where class\_start\_datetime < '2017-01-01'

),

all\_dates\_by\_user as

(

select user\_id

, dt

from all\_dates

join first\_payments on dt >= first\_payment\_date

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, date\_trunc ('day', transaction\_datetime)

)

,

payments\_by\_dates\_cumsum as

(

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

, all\_dates\_by\_user.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.dt = payments\_by\_dates.payment\_date and payments\_by\_dates.user\_id = 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 classes

from skyeng\_db.classes

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

and class\_type <> 'trial'

group by user\_id, date (class\_start\_datetime)

),

classes\_by\_dates\_dates\_cumsum as

(

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

, all\_dates\_by\_user.dt

, classes

, sum (coalesce (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

),

balances as

(

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

, payments\_by\_dates\_cumsum.dt

, transaction\_balance\_change

, transaction\_balance\_change\_cs

, classes

, classes\_cs

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

from payments\_by\_dates\_cumsum

join classes\_by\_dates\_dates\_cumsum on payments\_by\_dates\_cumsum.dt = classes\_by\_dates\_dates\_cumsum.dt

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

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

)

select dt

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

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

, sum (classes) as classes

, sum (classes\_cs) as classes\_cs

, sum (balance) as balance

from balances

group by dt

order by dt