with first\_payments as

(

select user\_id

, min(date(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(class\_start\_datetime) as dt

from skyeng\_db.classes

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

),

all\_dates\_by\_user as

(

select first\_payments.user\_id

, dt

from first\_payments

join all\_dates

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

order by user\_id, dt

),

payments\_by\_dates as

(select user\_id

, date(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

, case when transaction\_balance\_change is null then 0 else transaction\_balance\_change end

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

),

classes\_by\_dates as

(

select user\_id

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

, count(\*) \* -1 as 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\_dates\_cumsum as

(

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

, dt

, case when classes is null then 0 else classes end

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

left join classes\_by\_dates\_dates\_cumsum

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

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

)

select dt

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

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

, sum(classes) as classes\_by\_dates\_dates\_sum

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

, sum(balance) as balance\_sum

from balances

group by dt

order by dt