WITH first\_payments AS

(SELECT user\_id,

MIN(DATE\_TRUNC('day', transaction\_datetime)) AS first\_payment

FROM skyeng\_db.payments

WHERE status\_name = 'success'

GROUP BY user\_id

),

all\_dates AS

(SELECT distinct DATE\_TRUNC('day', class\_start\_datetime) AS dt

FROM skyeng\_db.classes

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

),

all\_dates\_by\_user AS

(SELECT first\_payments.user\_id, all\_dates.dt

FROM first\_payments JOIN all\_dates ON first\_payments.first\_payment <= all\_dates.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

),

payments\_by\_dates\_cumsum AS

(SELECT all\_dates\_by\_user.user\_id,

all\_dates\_by\_user.dt,

payments\_by\_dates.transaction\_balance\_change,

sum(coalesce(payments\_by\_dates.transaction\_balance\_change,0)) over (partition by all\_dates\_by\_user.user\_id order by all\_dates\_by\_user.dt rows between unbounded preceding and current row) as transaction\_balance\_change\_cs

FROM all\_dates\_by\_user LEFT JOIN payments\_by\_dates

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

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

),

classes\_by\_dates AS

(SELECT user\_id, DATE\_TRUNC('day', 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 NOT IN ('trial')

GROUP by user\_id, class\_date

),

classes\_by\_dates\_dates\_cumsum AS

(SELECT all\_dates\_by\_user.user\_id,

all\_dates\_by\_user.dt,

classes\_by\_dates.classes,

sum(coalesce(classes\_by\_dates.classes,0)) over (partition by all\_dates\_by\_user.user\_id order by all\_dates\_by\_user.dt rows between unbounded preceding and current row) as classes\_cs

FROM all\_dates\_by\_user LEFT JOIN classes\_by\_dates

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

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

),

balances AS

(SELECT payments\_by\_dates\_cumsum.user\_id,

payments\_by\_dates\_cumsum.dt,

payments\_by\_dates\_cumsum.transaction\_balance\_change,

payments\_by\_dates\_cumsum.transaction\_balance\_change\_cs,

classes\_by\_dates\_dates\_cumsum.classes,

classes\_by\_dates\_dates\_cumsum.classes\_cs,

(classes\_by\_dates\_dates\_cumsum.classes\_cs + payments\_by\_dates\_cumsum.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 \*

--FROM balances

-- ORDER BY user\_id, dt

-- LIMIT 1000

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