**Курсовая работа.**

with first\_payments as

(select user\_id, first\_payment\_date

from (select \*,

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

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

from skyeng\_db.payments

where status\_name = 'success') t

where row\_number =1),

all\_dates as (select

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

from skyeng\_db.classes

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

payments\_by\_dates as

(select user\_id, payment\_day,

sum (classes) transaction\_balance\_change

from (select \*,

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

from skyeng\_db.payments

where status\_name = 'success') t

group by user\_id, payment\_day),

all\_dates\_by\_user as (

select user\_id

, dt

from all\_dates a

left join first\_payments c on a.dt > c.first\_payment\_date or a.dt = c.first\_payment\_date),

classes\_by\_dates as (select user\_id, class\_date

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

from

(select \*,

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

from skyeng\_db.classes) t

where class\_status in ('success', 'failed\_by\_student') and class\_type != 'trial'

group by user\_id, class\_date),

payments\_by\_dates\_cumsum as (

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

sum(case when transaction\_balance\_change is null then 0 else transaction\_balance\_change end) over (partition by a.user\_id order by dt) transaction\_balance\_change\_cs

from all\_dates\_by\_user a

left join payments\_by\_dates b on a.user\_id = b.user\_id and a.dt = b.payment\_day),

classes\_by\_dates\_dates\_cumsum as

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

sum (case when classes is null then 0 else classes end) over (partition by a.user\_id order by dt) classes\_cs

from all\_dates\_by\_user a

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

balances as (select a.user\_id,

a.dt,

transaction\_balance\_change,

transaction\_balance\_change\_cs,

classes,

classes\_cs,

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

from classes\_by\_dates\_dates\_cumsum a

left join payments\_by\_dates\_cumsum b on a.user\_id = b.user\_id and a.dt = b.dt)

select dt,

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

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

sum (classes) sum\_classes,

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

sum (balance) sum\_balance

from balances

group by dt

order by dt