**Курсовая работа**

**with first\_payments as**

**( --1 шаг**

**select user\_id**

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

**from skyeng\_db.payments**

**where status\_name = 'success'**

**group by user\_id**

**),**

**all\_dates as**

**( --2 шаг**

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

**from skyeng\_db.classes**

**where class\_start\_datetime between '2016-01-01' and '2017-01-01'**

**),**

**all\_dates\_by\_user as**

**( --3 шаг**

**select user\_id**

**, dt**

**from first\_payments**

**join all\_dates**

**on dt >= first\_payment\_date**

**),**

**payments\_by\_dates as**

**( --4 шаг**

**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**

**( --5 шаг**

**select ad.user\_id**

**, dt**

**, transaction\_balance\_change**

**, sum(transaction\_balance\_change) over (partition by ad.user\_id order by dt) as transaction\_balance\_change\_cs**

**from all\_dates\_by\_user ad**

**left join payments\_by\_dates pd**

**on ad.user\_id = pd.user\_id**

**and payment\_date = dt**

**),**

**classes\_by\_dates as**

**( --6 шаг**

**select user\_id**

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

**, count(class\_start\_datetime) \* -1 as classes**

**from skyeng\_db.classes**

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

**and class\_type != 'trial'**

**group by user\_id, class\_date**

**),**

**classes\_by\_dates\_dates\_cumsum as**

**( --7 шаг**

**select ad.user\_id**

**, dt**

**, classes**

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

**from all\_dates\_by\_user ad**

**left join classes\_by\_dates cd**

**on ad.user\_id = cd.user\_id**

**and class\_date = dt**

**),**

**balances as**

**( --8 шаг**

**select pdc.user\_id**

**, pdc.dt**

**, transaction\_balance\_change**

**, transaction\_balance\_change\_cs**

**, classes**

**, classes\_cs**

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

**from payments\_by\_dates\_cumsum pdc**

**join classes\_by\_dates\_dates\_cumsum cddc**

**on pdc.user\_id = cddc.user\_id**

**and pdc.dt = cddc.dt**

**)**

**select dt**

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

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

**, sum(classes) as sum\_classes**

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

**, sum(balance) as sum\_balance**

**from balances**

**group by dt**

**order by dt**