Common description:

Table Accounts contains user’s ID and Name, quite simple. ID field should be a primary key (PK).

Table Numbers contains same user’s ID and their Phone number. ID field should be a (PK).

Table Call\_forwarding contains call redirects. So we should create and call recursive function to this table to define end call point. FROM field should be a (PK).

Table Call\_logs contains calls, described by id, direction, source and destination number, user ID, and time of start and end of the call. Call\_id should be a (PK) and UID - a foreign key (FK).

Table Rates describes tariffs. Let’s define Money field as price for 1 second. ID should be a (PK).

In general, tables contain information about calls, tariffs and users. This extract might be a part of mobile operator database. It could be used for analyze user’s traffic and total allocation of expenses and talk time.

It would seem that it’s better for avoiding duplication to combine Accounts and Numbers tables, but user could has more then one phone, so it’s necessary to separate these tables.

Formulas for functions:

**Call\_time** = (TIME\_TO\_SEC(TIME(Timestamp\_end)) - TIME\_TO\_SEC(TIME(Timestamp\_start)));

**Total\_price** = sum(CAST((s.Call\_time \* s.Tarif) AS DECIMAL(10,2)));

User story:

As *mobile operator* I want to get as much structure statistics as it’s possible for timely data analyze (prices, load, time zones).

As *client* using the services of a cellular operator I want to know my own total statistics of consumed resources for choosing the most convenient tariff.

As *developer* I want to process the data right to make final statistics readable and clearly understandable for clients.