Dear Kelly,

Hope this mail finds you well! It is my pleasure to be a part contributing to the acqusition and the following are my answers with you questions:

---

**Part One**

1. *The cost of the company we are thinking about buying is $30,000,000.  However, the owner is on our board and will give a discount of $15,210,000.  We will be buying a share of this company with 6 other investors.  The board member is wiling to give all of us the discount on the purchase price.  What is the price that each investor will pay?*

```
mysql> select (30000000-15210000)/7;
+-----------------------+
| (30000000-15210000)/7 |
+-----------------------+
|            2112857.1429 |
+-----------------------+
1 row in set (0.04 sec)
```

   Each investor supposed to pay $2112857.1429$.

**Part Two**

1. *How many accounts does company1 have?  (Optional)*

   There are 24 accounts.

```
mysql> select * from account;
+------------+------------+---------+------------+------------+------------------+----
-----+----------------+-------------+--------------+-----------------+
| account_id | product_cd | cust_id | open_date  | close_date | last_activity_date | st
atus | open_branch_id | open_emp_id | avail_balance | pending_balance |
                                                          -----+----------------+------
                                                          24 rows in set (0.14 sec)
```

2. *What is the primary key of the accounts table?*

   'account_id' is the primary key.

```
mysql> desc account;
+------------------+----------------------------------+------+-----+---------+----------------+
| Field            | Type                             | Null | Key | Default | Extra          |
+------------------+----------------------------------+------+-----+---------+----------------+
| account_id       | int unsigned                     | NO   | PRI | NULL    | auto_increment |
| product_cd       | varchar(10)                      | NO   | MUL | NULL    |                |
| cust_id          | int unsigned                     | NO   | MUL | NULL    |                |
| open_date        | date                             | NO   |     | NULL    |                |
| close_date       | date                             | YES  |     | NULL    |                |
| last_activity_date | date                           | YES  |     | NULL    |                |
| status           | enum('ACTIVE','CLOSED','FROZEN') | YES  |     | NULL    |                |
| open_branch_id   | smallint unsigned                | YES  | MUL | NULL    |                |
| open_emp_id      | smallint unsigned                | YES  | MUL | NULL    |                |
| avail_balance    | float(10,2)                      | YES  |     | NULL    |                |
| pending_balance  | float(10,2)                      | YES  |     | NULL    |                |
+------------------+----------------------------------+------+-----+---------+----------------+
11 rows in set (0.04 sec)
```

3. *What are the possible values that could be in the status field in the account table?*

'ACTIVE','CLOSED','FROZEN' are possible values that could be in the status field in the account table.

```
mysql> desc account;
+------------------+----------------------------------+------+-----+---------+----------------+
| Field            | Type                             | Null | Key | Default | Extra          |
+------------------+----------------------------------+------+-----+---------+----------------+
| account_id       | int unsigned                     | NO   | PRI | NULL    | auto_increment |
| product_cd       | varchar(10)                      | NO   | MUL | NULL    |                |
| cust_id          | int unsigned                     | NO   | MUL | NULL    |                |
| open_date        | date                             | NO   |     | NULL    |                |
| close_date       | date                             | YES  |     | NULL    |                |
| last_activity_date | date                           | YES  |     | NULL    |                |
| status           | enum('ACTIVE','CLOSED','FROZEN') | YES  |     | NULL    |                |
| open_branch_id   | smallint unsigned                | YES  | MUL | NULL    |                |
| open_emp_id      | smallint unsigned                | YES  | MUL | NULL    |                |
| avail_balance    | float(10,2)                      | YES  |     | NULL    |                |
| pending_balance  | float(10,2)                      | YES  |     | NULL    |                |
+------------------+----------------------------------+------+-----+---------+----------------+
11 rows in set (0.04 sec)
```

However, in current table, there is only 'ACTIVE' in it.

```
mysql> select distinct status from account;
+--------+
| status |
+--------+
| ACTIVE |
+--------+
1 row in set (0.05 sec)
```

Table Documentation

*Account*

| Field Name | Data Type | Values | Note |
|---|---|---|---|
| account_id | int | id of account | primary key |
| product_id | int | id of product | |
| open_date | date | account open date | |
| close_date | date | account close date | |
| last_activity_date | date | account last active date | |
| status | enum('ACTIVE'CLOSED''FROZEN') | three kinds of account status | |
| open_branch_id | int | id of branch where account opened | |
| open_emp_id | int | id of employee who opened the account | |
| avail_balance | float | account available balance | |
| pending_balance | float | account pending balance | |

**Part Three**

1. *Which employee ID has opened the most company accounts? (look at the account table for this one)*

   The employee with id 1 is the person who opened the most company accounts since in the open_emp_id 1 has the most appearance.

| account_id | product_cd | cust_id | open_date | close_date | last_activity_date | status | open_branch_id | open_emp_id | avail_balance | pending_balance |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | CHK | 1 | 2000-01-15 | NULL | 2005-01-04 | ACTIVE | 2 | 10 | 1057.75 | 1057.75 |
| 2 | SAV | 1 | 2000-01-15 | NULL | 2004-12-19 | ACTIVE | 2 | 10 | 500.00 | 500.00 |
| 3 | CD | 1 | 2004-06-30 | NULL | 2004-06-30 | ACTIVE | 2 | 10 | 3000.00 | 3000.00 |
| 4 | CHK | 2 | 2001-03-12 | NULL | 2004-12-27 | ACTIVE | 2 | 10 | 2258.02 | 2258.02 |
| 5 | SAV | 2 | 2001-03-12 | NULL | 2004-12-11 | ACTIVE | 2 | 10 | 200.00 | 200.00 |
| 7 | CHK | 3 | 2002-11-23 | NULL | 2004-11-30 | ACTIVE | 3 | 13 | 1057.75 | 1057.75 |
| 8 | MM | 3 | 2002-12-15 | NULL | 2004-12-05 | ACTIVE | 3 | 13 | 2212.50 | 2212.50 |
| 10 | CHK | 4 | 2003-09-12 | NULL | 2005-01-03 | ACTIVE | 1 | 1 | 534.12 | 534.12 |
| 11 | SAV | 4 | 2000-01-15 | NULL | 2004-10-24 | ACTIVE | 1 | 1 | 767.77 | 767.77 |
| 12 | MM | 4 | 2004-09-30 | NULL | 2004-11-11 | ACTIVE | 1 | 1 | 5487.09 | 5487.09 |
| 13 | CHK | 5 | 2004-01-27 | NULL | 2005-01-05 | ACTIVE | 4 | 16 | 2237.97 | 2897.97 |
| 14 | CHK | 6 | 2002-08-24 | NULL | 2004-11-29 | ACTIVE | 1 | 1 | 122.37 | 122.37 |
| 15 | CD | 6 | 2004-12-28 | NULL | 2004-12-28 | ACTIVE | 1 | 1 | 10000.00 | 10000.00 |
| 17 | CD | 7 | 2004-01-12 | NULL | 2004-01-12 | ACTIVE | 2 | 10 | 5000.00 | 5000.00 |
| 18 | CHK | 8 | 2001-05-23 | NULL | 2005-01-03 | ACTIVE | 4 | 16 | 3487.19 | 3487.19 |
| 19 | SAV | 8 | 2001-05-23 | NULL | 2004-10-12 | ACTIVE | 4 | 16 | 387.99 | 387.99 |
| 21 | CHK | 9 | 2003-07-30 | NULL | 2004-12-15 | ACTIVE | 1 | 1 | 125.67 | 125.67 |
| 22 | MM | 9 | 2004-10-28 | NULL | 2004-10-28 | ACTIVE | 1 | 1 | 9345.55 | 9845.55 |
| 23 | CD | 9 | 2004-06-30 | NULL | 2004-06-30 | ACTIVE | 1 | 1 | 1500.00 | 1500.00 |
| 24 | CHK | 10 | 2002-09-30 | NULL | 2004-12-15 | ACTIVE | 4 | 16 | 23575.12 | 23575.12 |
| 25 | BUS | 10 | 2002-10-01 | NULL | 2004-08-28 | ACTIVE | 4 | 16 | 0.00 | 0.00 |
| 27 | BUS | 11 | 2004-03-22 | NULL | 2004-11-14 | ACTIVE | 2 | 10 | 9345.55 | 9345.55 |
| 28 | CHK | 12 | 2003-07-30 | NULL | 2004-12-15 | ACTIVE | 4 | 16 | 38552.05 | 38552.05 |
| 29 | SBL | 13 | 2004-02-22 | NULL | 2004-12-17 | ACTIVE | 3 | 13 | 50000.00 | 50000.00 |

2. *When did the employee who has opened the most accounts start working at the company? (optional)*

The empoyee1 started to work for the company since June 22nd, 2001.

```
mysql> select emp_id, start_date from employee where emp_id = 1;
+--------+------------+
| emp_id | start_date |
+--------+------------+
|      1 | 2001-06-22 |
+--------+------------+
1 row in set (0.15 sec)
```

**Part Four**

1. *Write a query that returns only the date of the transaction and the account id (in that order) from the transaction table sort this by the most recent transaction.*

The following is my query:

```
mysql> select txn_date, account_id from transaction order by txn_date desc;
+---------------------+------------+
| txn_date            | account_id |
+---------------------+------------+
| 2004-12-28 00:00:00 |         15 |
| 2004-10-28 00:00:00 |         22 |
| 2004-09-30 00:00:00 |         12 |
| 2004-06-30 00:00:00 |         23 |
| 2004-06-30 00:00:00 |          3 |
| 2004-01-27 00:00:00 |         13 |
| 2004-01-12 00:00:00 |         17 |
| 2003-09-12 00:00:00 |         10 |
| 2003-07-30 00:00:00 |         28 |
| 2003-07-30 00:00:00 |         21 |
| 2002-12-15 00:00:00 |          8 |
| 2002-11-23 00:00:00 |          7 |
| 2002-09-30 00:00:00 |         24 |
| 2002-08-24 00:00:00 |         14 |
| 2001-05-23 00:00:00 |         18 |
| 2001-05-23 00:00:00 |         19 |
| 2001-03-12 00:00:00 |          5 |
| 2001-03-12 00:00:00 |          4 |
| 2000-01-15 00:00:00 |         11 |
| 2000-01-15 00:00:00 |          2 |
| 2000-01-15 00:00:00 |          1 |
+---------------------+------------+
21 rows in set (0.05 sec)
```

Table Documentation

*Transaction*

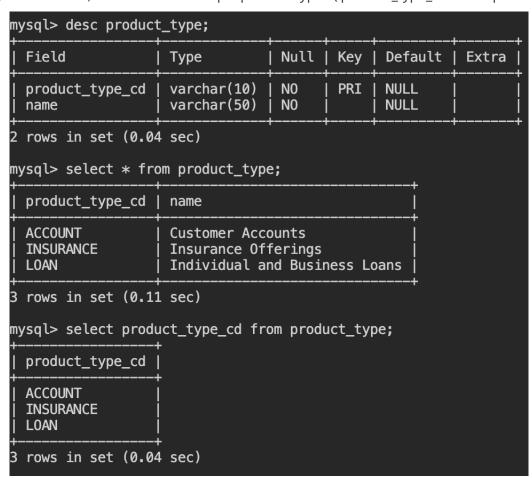| Field Name | Data Type | Values | Note |
|---|---|---|---|
| txn_id | int | id of transaction | primary key |
| txn_date | datetime | transaction date and specific time | |
| account_id | int | id of account | |
| txn_type_cd | enum('DBT','CDT) | transaction via debit card or credit card | |
| teller_emp_id | int | id of teller employee | |
| execution_branch_id | int | id of branch where the transaction executed | |
| funds_avial_date | datetime | time when the fund available | |

2.  *What is the primary key in the transaction table?*

    'txn_id' is the primary key.

```
mysql> desc transaction;
+--------------------+------------------+------+-----+---------+----------------+
| Field              | Type             | Null | Key | Default | Extra          |
+--------------------+------------------+------+-----+---------+----------------+
| txn_id             | int unsigned     | NO   | PRI | NULL    | auto_increment |
| txn_date           | datetime         | NO   |     | NULL    |                |
| account_id         | int unsigned     | NO   | MUL | NULL    |                |
| txn_type_cd        | enum('DBT','CDT')| YES  |     | NULL    |                |
| amount             | double(10,2)     | NO   |     | NULL    |                |
| teller_emp_id      | smallint unsigned| YES  | MUL | NULL    |                |
| execution_branch_id| smallint unsigned| YES  | MUL | NULL    |                |
| funds_avail_date   | datetime         | YES  |     | NULL    |                |
+--------------------+------------------+------+-----+---------+----------------+
8 rows in set (0.05 sec)
```

3. *What are the unique product types that are offered?  (optional)*

'ACCOUNT', 'INSURANCE', 'LOAN' are the unique product types.('product_type_cd' is the primary key.)

```
mysql> desc product_type;
+-----------------+-------------+------+-----+---------+-------+
| Field           | Type        | Null | Key | Default | Extra |
+-----------------+-------------+------+-----+---------+-------+
| product_type_cd | varchar(10) | NO   | PRI | NULL    |       |
| name            | varchar(50) | NO   |     | NULL    |       |
+-----------------+-------------+------+-----+---------+-------+
2 rows in set (0.04 sec)

mysql> select * from product_type;
+-----------------+-----------------------------+
| product_type_cd | name                        |
+-----------------+-----------------------------+
| ACCOUNT         | Customer Accounts           |
| INSURANCE       | Insurance Offerings         |
| LOAN            | Individual and Business Loans |
+-----------------+-----------------------------+
3 rows in set (0.11 sec)

mysql> select product_type_cd from product_type;
+-----------------+
| product_type_cd |
+-----------------+
| ACCOUNT         |
| INSURANCE       |
| LOAN            |
+-----------------+
3 rows in set (0.04 sec)
```

**Part Five**

1. *How many branches are located in MA?  (optional)*

There are 3 branches located in MA.

```
mysql> select state from branch;
+-------+
| state |
+-------+
| MA    |
| MA    |
| MA    |
| NH    |
+-------+
4 rows in set (0.04 sec)
```

2. *Can you write a query will list the name of each branch, the address of each branch, the zip code of each branch, and a field that indicates the current date and time you made the query that shows in the query as a field called "querytime"?  I want to make sure that when I view the data, I am seeing when (date, time) you made the query to validate if you are correct.*

The following is my query:

```
mysql> select name, address, zip , now() as querytime from branch;
+----------------+---------------------+-------+---------------------+
| name           | address             | zip   | querytime           |
+----------------+---------------------+-------+---------------------+
| Headquarters   | 3882 Main St.       | 02451 | 2023-09-16 00:03:11 |
| Woburn Branch  | 422 Maple St.       | 01801 | 2023-09-16 00:03:11 |
| Quincy Branch  | 125 Presidential Way | 02169 | 2023-09-16 00:03:11 |
| So. NH Branch  | 378 Maynard Ln.     | 03079 | 2023-09-16 00:03:11 |
+----------------+---------------------+-------+---------------------+
4 rows in set (0.04 sec)
```

Table Documentation

*Branch*

| Field Name | Data Type | Values | Note |
|------------|-----------|--------|------|
| branch_id | int | id of branch | primary key |
| name | varchar | name of branch | |
| address | varchar | address of branch | |
| city | vrachar | city where branch located | |
| state | varchar | state where branch in | |
| zip | varchar | zipcode of branch | |

Best regards,

Jun