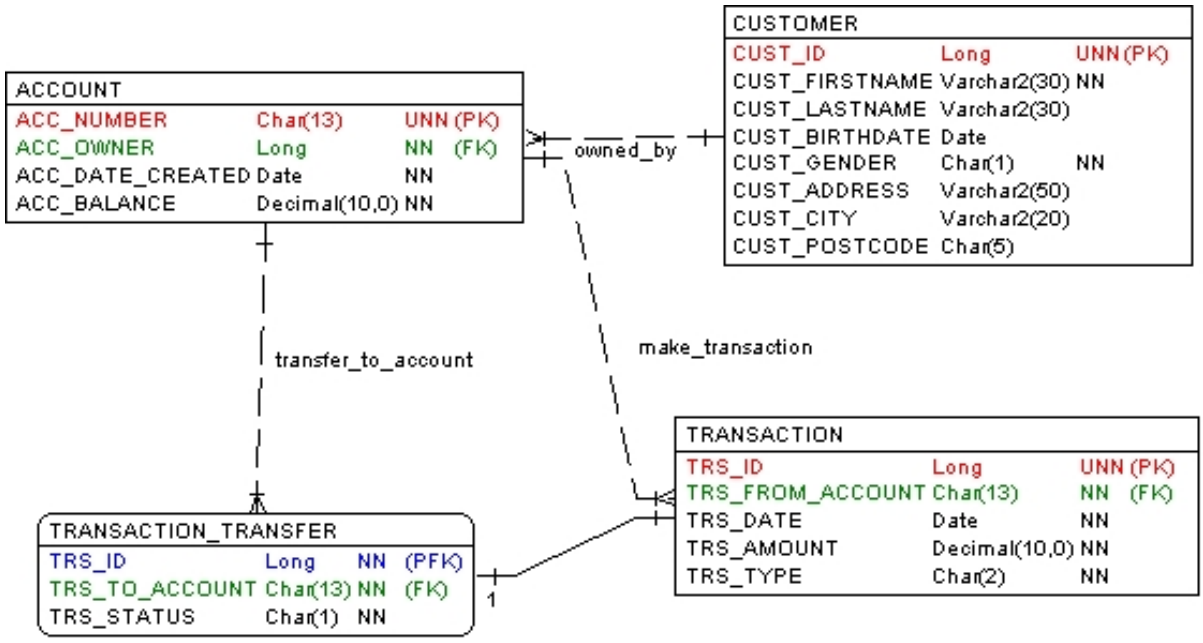
Structured Query Language (SQL)



Note:
UNN : Unique, Not Null
PK : Primary Key
FK : Foreign Key
NN : Not Null

Table description:

1. CUSTOMER: contains all bank customer data
   The column CUST_GENDER is set to 1 for male and 2 for female.
2. ACCOUNT: contains all customer accounts

The column ACC_OWNER is the Foreign Key which refers to the column CUST_ID of the table CUSTOMER.

3. TRANSACTION: records all transactions.
   The column TRS_TYPE contains the transaction type with possible values:
   a. DB: for debit transaction.
   b. CR: for credit transaction.
   c. TF: for money transfer. The column TRS_FROM_ACCOUNT contains the source account.
4. TRANSACTION_TRANSFER: contains additional information if the transaction is money transfer.
   The column TRS_STATUS contains one of the following values:
   a. 0: if transaction is not executed yet
   b. 1: if transaction is executed successfully
   c. -1: if transaction is failed (e.g. the balance of source account (TRS_FROM_ACCOUNT) is not available)

Questions

Create SQL queries for the following requirements:

1. Recapitulation of number of accounts owned by every customer.

Answer:

```
SELECT  C.CUST_ID, C.CUST_FIRST_NAME, C.CUST_LAST_NAME,
COUNT(A.ACC_NUMBER) AS NUM_OF_ACCOUNTS
FROM CUSTOMER C
JOIN ACCOUNT A
ON C.CUST_ID = A.ACC_OWNER
GROUP BY C.CUST_ID, C.CUST_FIRST_NAME, C.CUST_LAST_NAME;
```

2. All transactions created by John Michael sorted by account number and transaction date

Answer:

```
SELECT * FROM TRANSACTION
INNER JOIN ACCOUNT ON TRANSACTION.TRS_FROM_ACCOUNT =
ACCOUNT.ACC_NUMBER
INNER JOIN CUSTOMER ON ACCOUNT.ACC_OWNER = CUSTOMER.CUST_ID
WHERE CUSTOMER.CUST_FIRST_NAME = 'John' AND
CUSTOMER.CUST_LAST_NAME = 'Michael'
ORDER BY ACCOUNT.ACC_NUMBER, TRANSACTION.TRS_DATE;
```