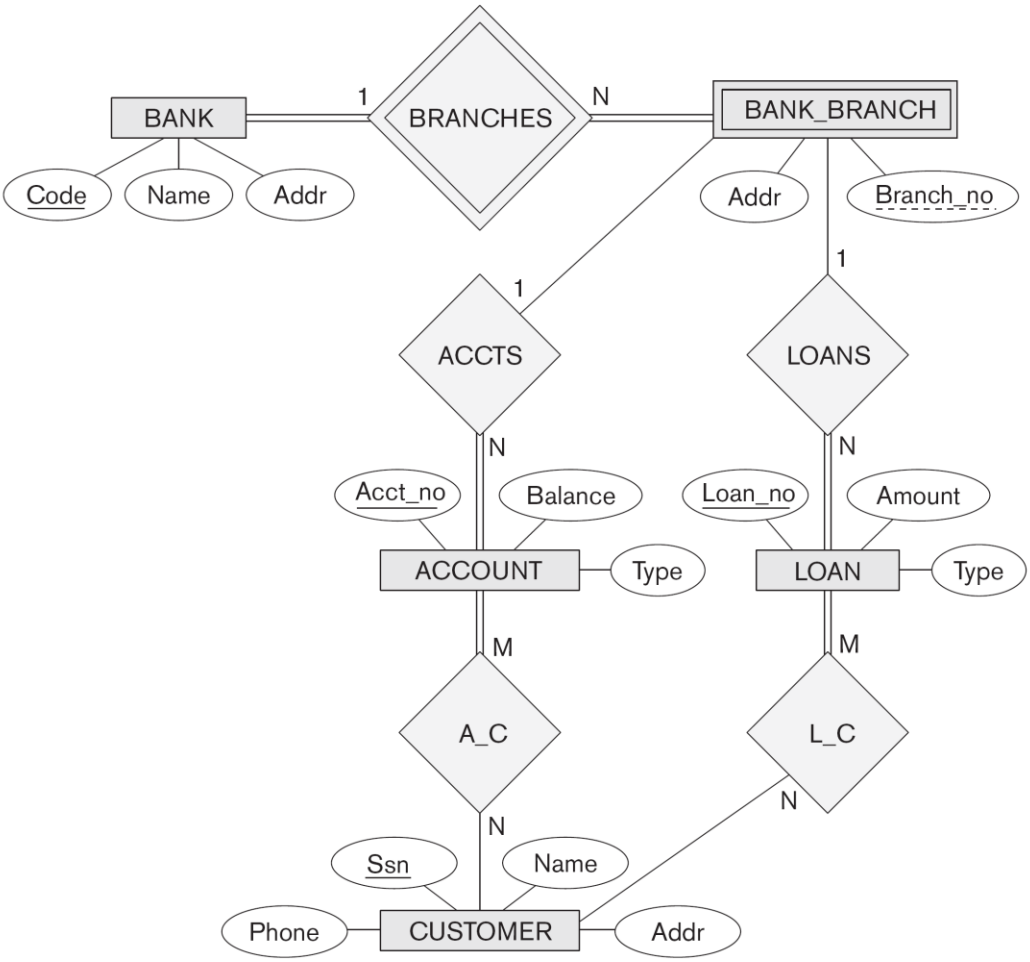
Assignment #3 (A3)

Due:	Wednesday, October 2, 2019 (11:30 AM)
Purpose:	This assignment gives you experience converting a conceptual model (ER Diagram) into a Relational Model and allows you to practice writing SQL commands.
Turn-Ins:	Relational Model (hand-drawn or computer file) and SQL source file for MySQL DB
Allowed Resources:	Lecture notes/handouts, Course Textbook, MySQL, Drawing tool/applicationp
Submission:	A hard copy of your model can be turned in during class or submitted digitally. Your SQL source file must be submitted via Sakai (Assignments). [Late penalties apply per syllabus.]

1. Given the provided ER Diagram (shown on the next page) develop a **relational model** that represents the database described in the diagram. (Similar to the COMPANY relational model that we discussed in class.)
    - Clearly identify any primary key attributes and all referential integrity (using arrows).
    - Feel free to organize your model so that it is easy to develop (i.e., all the tables need not line up perfectly, etc.).
2. Develop an **SQL source file** that can be used to automatically create a MySQL database based on your relational model. The format of this SQL source file should follow the example given in class (animal.sql) and should NOT be a SQL dump file.
    - The SQL source file must include these commands:
        - Grant the user "*root*" full access to the database
        - Create the database
        - CREATE TABLE commands for each relation in your model
            - Include attribute data types and any constraints (NOT NULL, etc.)
                - You may select attribute types that you believe best fit the data being stored.
            - Identify primary keys
            - Specify any foreign key constraints (can also appear at end of file via ALTER TABLE command)
        - Populate the database with INSERT commands
            - Ensure that each table has at least 5 rows (tuples) of valid data.
        - Using DESCRIBE commands display the setup of each table.
3. At the end of your SQL source file, you should create the following SELECT SQL queries that find basic information.
        - Show the names of each bank.
        - Show the names of each bank and the branch number of its branches.
        - Show the names of each customer.
        - Show the names of each customer and the account numbers associated with a customer.
        - Show the names of each customer and addresses of the bank branches where they have loan accounts.

ER Diagram for a BANK database:



Note: You may also provide a **devnotes.txt** file with your submission that includes any development notes that you may have. For example: explaining your rationale for selecting specific attribute data types.

Please refer to the in class tutorial on MySQL on how to use the lab computers in order to utilize the MySQL database and create SQL source files. Any lab computer across campus should have the XAMPP software installed, which allows us to run MySQL.