**LAB 3 Due: Saturday at Midnight**

**QUESTION 1**

To come up with improved consumer selective advertisement strategies, AT&T wants to start maintaining a call log of which of its customers called which of its other customers. Each customer may call any number of other customers. The call log records the caller IDs of the consumers who dialed a call and caller IDs of consumers who received a call. The call log also records the call’s time, date and duration.

To answer this question, you need to:

1. Define the business rules;
2. Use MS Visio to create a relational data model;
3. Use MS Access to build the tables, establish relationships, and add sample data. Please enter your OWN first name and last name as the first row while populating data in the access tables.

**Remember to declare necessary assumptions (business rules) for the entities, if they cannot be presented in your E-R diagram**.

**QUESTION 2**

Propose one business rule that has a many-to-many binary relationship. You can choose either an identifying relationship (composite key) or non-identifying (surrogate key) relationship to implement it. But please explain how you decide which relationship to use.

To answer this question, you need to:

1. Define the business rules;
2. Use MS Visio to create the above two relational data models;
3. Use MS Access to build the tables, establish relationships, and add sample data. You may consult with the lecture slides regarding the employee-skill example.

**SUBMISSION INSTRUCTIONS**

Please submit your lab report (including the ERDs and screenshots) in **one** **WORD** file to Blackboard. Name your file in this format “IST659-Lab3-Lastname-Firstname.docx”.

Please attach the following **screenshots** with your report.

1. ERD diagrams;
2. The data relationship model of your Access tables;
3. The datasheet view of each table with sample data entered.

**GRADING CRITERIA:**

* Appropriate Keys assigned (Primary Keys and Foreign Keys), Required and optional attributes, identifying and non-identifying relationships 2pts -> 0.5 points will be deducted for every mistake made
* Correct cardinality according to the assumptions or given conditions 1pt -> 0.25pt will be deducted for every mistake made
* Datasheet view of tables in Access with data 0.5pt
* Data relationship model in Access 1pt
* Properly formatted, understandable font and clear ERD screenshots 0.5pt

**Total: 5pt**