CSCI 2141
Winter 2013
Assignment 1

Due: 9:35 am, January 23, 2013, Groups of up to 3 students permitted
Submission instructions:. You do not need to use a modeling tool. If you draw ER diagrams by hand, scan your work as a PDF Email your assignment to the TA, Savneet Arora sarora@cs.dal.ca. In the subject line, use the following template:

2141 Assignment-1(Banner Id(s))

1. Short answer questions:
    a. When translating an E-R model into a set of tables, if two entities have one-to-one relationships, describe the resulting tables and keys?
    b. If translating two entities, A and B with a MANY-to-MANY relationship into tables, will both tables A and B have each other's primary key as an attribute?
    c. In a one-to-one relationship, when (if ever) is it highly desirable to create three tables for two entities?

2. Construct an E-R diagram for a cleaning company database where an employee can work on only one cleaning contract at any given time, while many employees can participate in a cleaning contract at the same time. Convert the E-R model into tables.

3. Construct an E-R diagram for an insurance company that has a set of customers, each of whom owns one or more items (homes, vehicles, etc.) to be insured. Each item is associated with zero to any number of insurance claims. From the E-R diagram develop the tables and identify the primary keys and foreign keys.

4. Amazon Wanabe Company (AWC) markets various products to thousands of repeat customers. Each product is identified by a product ID and has product description, quantity on hand, and unit price. A unique account number identifies each customer. All relevant information of the customer is maintained in the database (e.g., contact name, address, phone number, etc.). Customers place orders for various products. Each customer order may consist of one or more products. The quantity ordered for various products can vary. However, the order delivery date will be the same.

    1. Model AWC's business by way of an Entity-Relationship diagram. Identify the keys, attributes and relationship cardinalities for each entity.

    2. Based on your E-R model, develop the set of tables.