## DMIT1508 Lab 1 Due by: January 31st by 4:15 pm Marks: 8% (marked out of 26)

**LATE LABS WILL NOT BE ACCEPTED**

**Books Galore**

**Objectives:**

1. Produce an ERD in 3NF from source documents and client input.
2. Demonstrate first, second, and third normal forms by showing the entities as they exist in each of the three normal forms
3. Merge ERD’s from different views to create one ERD

**Requirements:**

Given the source documents and company description create a database design demonstrating the concept of normalization, showing the database tables in 1NF, 2NF, and 3NF. You will do this for each of the three views and create an ERD for each view in 3NF, as well as an ERD of the final merged solution (4 total). All ERD’s must be created using Microsoft Visio or a tool approved by your instructor.

**The Problem:**

Dick and Jane own Books Galore. Their company is so successful that they need to move from a manual system to a computer-based system. We would like you to design a database for the new computer system. The book store employs several employees.

**The Task:**

You are to design a relational database, in 3rd normal form, that conforms to the specifications described in the following pages. Our scope is limited to the views given in the lab.

**Business Contact/Rules:**

Your instructor will answer questions about any information that is not included in this document or to clarify. It is good client communication to review the documents given to you before asking the client a question that is answered on those documents. They can only answer questions regarding the business aspects of this company. Additional information about the company is described in each view.

**Employee View: (6 marks)**

An employee document is kept on file for each employee. It currently looks similar to the following:

**Employee Number:** 912

**SIN:** 444 555 666

**Name:** Jason Readalot

**Address:** 4567 – 89 Ave

**City:** Edmonton, Alta

**Postal Code:** T5N 1R1

**Work Phone:** 432-4444

**E-Mail Address:** [JasonRox@hotmail.com](mailto:JasonRox@hotmail.com)

**Employee Group Code:** S

**Employee Group Name:** Sales

**Wage:** $16

* Each employee belongs to a staff group.
* The Employee group an employee belongs to defines their wage

**Book Title View: (9 marks)**

A document is kept for each book the store sells. It contains information about the title itself as well as publisher, author and category details for the title.

* One publisher publishes a book
* A book can have many authors
* A book is in only one category

**ISBN:** 0-7356-1374-5

**Title:** How I fell in love with Normalization

**Suggested Selling Price:** 48.00

**Quantity On Hand:** 6

**Publisher Code** **Publisher Name**

134Microsoft Press

**Author Code Author Name**

423 Mary Writer

232 Susie Type

**Category Code** **Category Description**

1 Romance

**Sale View: (9 marks)**

An invoice is created for each customer detailing their purchase and how much they owe.

## Books Galore

**Sale Number:** 3002 **Date:** Jan 11, 2011

**Customer:**  Bob Brown **Customer** **No:** 502

12222 – 66 Street

Edmonton, Alta.

T5J 1X1

**Employee:** Jason Readalot **Employee** **No:** 301

## ISBN Book Title Price Quantity Amount

0-7356-1374-5 SQL and me 40.00 1 $40.00

0-8888-1234-5 Normalization for Dummies 30.00 2 $60.00

0-1234-1234-6 Case of the Missing Attributes 145.00 1 $145.00

**Sub** **Total:** $245.00

**GST:**  $12.25

**Total:**  $257.25

**Merged ERD**: **(2 marks)**

**Lab Submission is to include the following:**

* A ReadMe.md file that identifies:
  + Lab number, student name, instructor name, and section number
  + Any known errors in your solution. Errors you have identified and simply could not find a solution for are more acceptable than undocumented errors ☺. Failure to document known errors will result in mark deductions. (2 marks max deducted)
* A 0NF to 3NF solution for each view demonstrating the entire normalization steps taken, along with a listing of the final set of entities after completing third-normal form.
* All ERD’s are to be created using the ERD modeling tool approved by your instructor.
* Use the legend notation given by your instructor as the formatting for each step of your normalization process.
* Any **additional requirements as specified by your instructor**.

NOTE: Marks will be deducted for incomplete lab submissions. **Late labs will be assigned a mark of zero.**

**Other Considerations**

Do not make assumptions. If you have questions about the company, ask your instructor (client). This is not a group project. Working with another student on lab material may result in a grade of 0 for this lab and a report of academic dishonesty placed on your student record. Up to 2 Marks may be deducted for incomplete lab submission requirements or poor client communication (check the provided documentation for the answer before asking the client).