

COMP 2714 – Relational Database Systems

Assignment 04 – Normalization: Relational Model

Due at START of your Lab in week Nov 07 (Tue Nov 08) - Nov 11 (Fri), 2016 [2A, 2B]

Due in Assignment Box at 4:30pm on Thursday, Nov 10, 2016 [2C, 2D]

Friday Nov 11, 2016 is Remembrance Day stat. holiday

You are to work in groups of 2 students, with partners from within the same set.

Requirements:

1. Normalization result must be stated in **RELATION SCHEMA** format, showing UNF, 1NF, 2NF and 3NF separately and progressively.
2. For each normal form, state the normal form objective (i.e. definition of the normal form in terms of functional dependency), and the corresponding problems / issues to be resolved by decomposition.
3. For each relation, identify the primary key (with underline), and foreign keys (labeled with [FK] suffix) as appropriate.
4. Draw the corresponding ER diagram from each 3NF, using Visio 2010.
5. Where necessary, state any business rules / assumptions made during the normalization process, as they affect your design decisions.

Hand in the normalization results (UNF, 1NF, 2NF and 3NF) plus the corresponding logical ER diagrams drawn from the 3NF using Visio (UML notation). On the Cover Page, state clearly the course number, the assignment number, student name(s) [with Lastname, Firstname] and ID number(s), and the set letter.

1. Order (An Order Entry Form)
[25 marks : 5 marks per UNF, 1NF, 2NF, 3NF (with PKs/FKs), and 5 marks for ER diagram]

Order Form

OrdNo: O1579999 OrdDate: 01-05-2007 CustNo: C9543029

OrdName: Tom Johnson CustFirstName: Sharon

OrdStreet: 1632 Ocean Dr. OrdCity: Des Moines CustLastName: Johnson

OrdState: WA OrdZip: 98222-1123 CustStreet: 1223 Meyer Way

EmpNo: E8544399 CustCity: Fife

EmpFirstName: Joe CustState: WA

EmpLastName: Jenkins CustZip: 98222-1123

Order Details

ProdNo	Product	SuppNo	Supplier	Qty	Price	Amount
P1556678	CVP Ink Jet Color Printer	S3399214	Connex	1	\$99.00	\$99.00
P6677900	Black Ink Jet Cartridge	S3399214	Connex	1	\$25.69	\$25.69
P9995676	Battery Back-up System	S5095332	Cybercx	1	\$89.00	\$89.00

Record: 1 of 3

Total Amount: \$213.69

2. Invoice (A simple Invoice Report)
[25 marks : 5 marks per UNF, 1NF, 2NF, 3NF (with PKs/FKs), and 5 marks for ER diagram]

Invoice						
Customer No: C012345 Name: Contemporary Design Address: 456 Willingdon Avenue Burnaby, BC V3V 2A2				Invoice No: I034567 Date: 2016-10-10 Order No: O076543		
Product No	Description	Qty Ord	Qty Ship	Qty Back	Unit Price	Total Price
P1556678	CVP Ink Jet Color Printer	2	2		120.00	240.00
P6677901	HP Color Laser Printer	1	1		400.00	400.00
P6677909	Color Toner Cartridge	4	2	2	150.00	300.00
Total Amount						\$940.00
Discount						40.00
Amount Due						\$900.00

Total marks : 50/50