Database Design Assignment (Gold Coast Campus, Semester 2, 2013) – the University Accommodation Office case study.

Due date: 15:00 Friday 11/10/2013 – late submission will be penalized –see course profile for details.

Note: This assignment contributes 20% to your overall assessment. It is recommended to be done in groups of 2. You can do it individually if you so wish, but your workload will be higher, and it will not increase your marks.

Both members of a group should contribute equally to the assignment. During marking, each member may be asked to explain the work independently. If one cannot explain the work, then the marks for him or her will be lowered.

The accommodation office of a university has asked you to design a relational database to manage the data used for the leasing of rooms owned by the office. The detailed requirements are given in the case study. You can make your own reasonable assumptions if necessary.

For students in 2002ICT, your tasks are Tasks 1, 2 and 3. The three tasks are 55, 30 and 15 marks respectively

For students in 7003ICT, your tasks are Tasks 1, 2, 3 and 4 below. The four tasks are 50, 25, 15 and 10 marks respectively.

Task 1: Conceptual design (all students)

List your assumptions if you have.

Draw an EER or ER diagram for the conceptual design of the database.

(If your ERD is well-done and your translation is correct, your tables should be in 3NF in most cases).

Task 2: ERD to table translation (all students)

Translate your EERD or ERD to tables. Clearly show the primary key, foreign keys, and alternate keys.

In this task, you need to list the tables obtained directly from your ERD or EERD, including all attributes, PKs and FKs.

This task should not be mixed together with the next task.

Task 3: Schema refinement and documentation (all students)

Check your tables are at least in 3NF. If not, modify your ERD or do normalization here.

 If you choose to use non-3NF tables, provide reasons why.

Assign appropriate data types and lengths to all attributes.

Refine the schema to include necessary constraints such as domain constraints and null value constraints.

Document your final database schema clearly, eg, you may use a form similar to the following

Table name	attributes	Description	Type	domain constraint	comment
Customer					
	custNo	Customer number	Char(6)		
	custName	Customer name	Varchar2(30)		
	custPhone	Customer telephone number	Char(10)		
	gender	Customer gender	Char(1)	'M' or 'F'	
Product					
	pCode	Product code	Char(8)		
	pName	Product name	Varchar2(20)		
	price	Produce price	Number(6,2)	>0, <=1000	
Orders					
	orderno	Order number			
	Orddate	Order date	Date	<= current date	
	custNo				
	prodNo				
	Quantity	Quantity ordered	Number(3)	> 0	
	FKs: custNo --> Customer(custNo) prodNo --> Product (prodNo)				

Legend: 1. primary key attributes are underlined
        2. Only attributes marked with * allow null values

Task 4 Implementation (Master of IT students)

Create a script file named **create.sql,** to create your tables in Oracle SQL, enforcing all your constraints, and insert at least 5 records in each table. **At the beginning of your script file, write commands to drop all of the tables (with cascading constraints) you will create.**

Create a second script file named **query.sql** for the sample queries (c), (e), (q), (r) in Oracle SQL.

Submission:

1. (All students) Drop printed copies of Tasks 1, 2, 3 to the assignment box in G23.
2. (Master of IT students only) In addition to submitting printed copies of Tasks 1, 2, 3, you need to email your script files to j.wang@griffith.edu.au.