CMPU2007 Databases II (5 ECTS)
Continuous Assessment Part II Semester 1 2014-2015

Class group: DT228/2	Lecturer: Deirdre Lawless

Overview

This assignment will take the form of an independent project to be completed by week 12.

For the purpose of this assignment you will be provided with a case study (see file attached to this assignment) and will be required to complete the following:

- Create an ERD using ERWin (of type `logical/physical` in ERWin)
- Build the appropriate SQL to create and populate the tables
  - You can use Erwin to generate the SQL however you need to make sure you rename all constraints.
- Build the appropriate SQL to retrieve data
- Build the appropriate SQL to alter the data structures
- Appropriately comment your SQL.

The following are the requirements for the SQL:

- Datatype requirements
  - Acceptable datatypes are CHAR, DATE, NUMBER, VARCHAR2.
- Details of data to be inserted:
  - You are required to generate sufficient data to populate your tables to fulfil the queries required.
  - Approx. 10 rows per table will be needed. However, you need to decide on the population to ensure that the queries you design will result in data being returned in all circumstances.
- Details of queries to be created:
  - The use of a SINGLE ROW function
  - The use of an AGGREGATE function
  - An INNER JOIN on two tables
  - An INNER JOIN on three tables
  - A LEFT OUTER JOIN
  - A RIGHT OUTER JOIN
- Details of alterations to be made:
  - UPDATE selected data.
  - ADD a column to a table.
  - ADD a value constraint to a table.
  - MODIFY a column on a table.
  - DROP a column on a table.
  - DROP a constraint on a table.

You will be provided with an opportunity to work on this project during lab classes.
Each lab group will be working on the same case study. Groups have been created in Webcourses with tools available such as discussion boards, wiki etc which you can use to share information with and ask questions of each other.

Due date/time	Worth
Monday 1st December 2014 @ 23:59.	20% of module marks Average hours to complete[1] 20 hours

[1] This is the average amount of time that should be meaningfully spent by a student who has fully engaged with the module, and has done all exercises and recommended reading.

Demo requirement

- You will be required to demonstrate aspects of your implementation. You will do this by creating a video of you explaining and demonstrating your work.
    - You will need to:
        - Introduce your case study
        - Explain your ERD and how it models the problem
        - Explain the data you have created to demonstrate the manipulation and alteration.
        - Show the database being created and populated.
        - Explain the queries and show the output for your data
        - Explain the alterations and show the results of them.
- How to :
    - You can create one or more YouTube videos based on a screencast plus commentary or you could ask a friend to record you explaining your work.
        - A range of online free screencast capture software is available Screenomatic, ScreenToaster, Apowersoft, Screenr.
        - There is a range of other free software that requires a download e.g. BlueBerryFlashback, Camtasia, EZvid.
    - You can ask a friend to record you explaining and demonstrating your work.
    - You can add narrations and timings in PowerPoint to create a slideshow.

Submission requirement

You will need to submit the following:

- Erwin files which should be named with your student number <Student #>.erwin e.g. D1111111.erwin
- A single SQL file containing all the statements needed to create, alter, insert and retrieve the data which should be named with your student number <Student #>.sql e.g. D1111111.SQL.
- The link to your YouTube video as part of the text when you submit.

Submission mechanism

(Only submit through mechanisms listed here – other submissions will be ignored)

- You will be provided with an assignment box in Webcourses. A separate box will be provided for each lab group.
- No resubmission of assignments to achieve an improved result is allowed.

Penalties

- Non completion of the demo will result in a mark of 0 for this section of the continuous assessment.
- Non-submission of required files, even if demo has been completed, will result in a mark of 0 for this section of the continuous assessment.
- Late submission will attract a penalty of 20%.
- Assignments which do not adhere to the requirements or which are submitted incorrectly will not be marked, will attract a penalty of 20%.
- Any suspicion of unfair practice will be investigated and you will be invited to a meeting to discuss any issues arising at which a penalty will be decided.
- No submission will be accepted after 8th December @ 12:00.

DO:

1. Familiarise yourself with what plagiarism is and how you will be expected to behave within the DIT, e.g. DITSU Overview, and to take steps to address any issue of concern related to your submission for this assignment.
2. Familiarise yourself with the requirements of all aspects of the assessment.
3. Ask for clarification on any aspect that is unclear.
4. Work consistently through the next lab classes to ensure you are confident with the tools you will need.
5. Make alternate arrangements to demo in person if you cannot manage the screencasting.
6. Ask for an extension if needed.
7. Ensure your Erwin file is readable and adheres to requirements.
8. Ensure your SQL file is commented.
9. Ensure you illustrate how the select statements work in your document.
10. Adhere to the naming conventions as outlined.
11. Submit via the correct submission box.

AVOID:

1. Attracting a late penalty by
    a. Not preparing correctly.
    b. Not reading the requirements for submission.
    c. Incorrectly naming your submissions.
2. Unfair Practice
    a. Submitting work completed by another student.
    b. Not acknowledging internet, or other, sources you have used in your submission.

Marking:

Erwin Model	
Entities Correctly Identified and Named with correct attributes and primary keys selected	5 marks
Relationships between entities are of correct type with correct cardinality	5 marks
Create and Insert SQL	
All tables created with names, attributes matching ERD and correct primary keys	5 marks
Each table has appropriate foreign key and value constraints	5 marks
Inserts are included for all data required in correct order adhering to constraints and data is persisted	5 marks
Manipulation SQL	
Statements to retrieve all data required is included	15 marks
Alteration SQL	
Statements to alter all data structures required is included	15 marks
General SQL Requirements	
All SQL is appropriately commented	5 marks
Demonstration	
Explains case study and ERD clearly	5 marks
Successfully demonstrates and explains creation and population of database	5 marks
Successfully demonstrates and explains queries	15 marks
Successfully demonstrates and explains selected alterations	15 marks
Total	**100 marks**