Cardiff School of Computer Science and Informatics

Coursework Assessment Pro-forma

Module Code: CM2102
Module Title: Database Systems
Lecturer: Jianhua Shao
Assessment Title: Coursework Part II
Assessment Number: 1
Date Set: 23 November 2020
Submission Date and Time: 14 December 2020 at 9:30am

Feedback Return Date: 23 December 2020

This part of assignment is worth 50% of the total marks available for this module. If coursework is submitted late (and where there are no extenuating circumstances):

1 If the assessment is submitted no later than 24 hours after the deadline, the mark for the assessment will be capped at the minimum pass mark;
2 If the assessment is submitted more than 24 hours after the deadline, a mark of 0 will be given for the assessment.

Your submission must include the official Coursework Submission Cover sheet, which can be found here:

https://docs.cs.cf.ac.uk/downloads/coursework/Coversheet.pdf

Submission Instructions

You should submit a single file containing all your SQL code and the results from their execution. Your file should be covered into PDF before submission. Your coursework must be submitted via Learning Central.

Description		Type	Name
Cover sheet	**Compulsory**	One PDF (.pdf) file	[student number].pdf
CW	**Compulsory**	One PDF (.pdf) file	CW_[student number].pdf/doc/docx

Any deviation from the submission instructions above (including the number and types of files submitted) will result in a mark of zero for the assessment or question part.

Staff reserve the right to invite students to a meeting to discuss coursework submissions

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Assignment

One possible design for the application described in Part I of the coursework is given below (you may like to compare this to your own design):

Customer(Cust#, Name, Address)
StandingOrder(Order#, StartDate, EndDate, Cust#, Item#)
Item(Item#, Description, Price, Weight)
Delivery(D#, Date, Inv#)
Invoice(Inv#, Date, Total, Cust#)
Payment(P#, Date, Cust#)
Covers(P#, Inv#, Amount)
DeliveredQty(Order#, D#, Quantity)

Based on this set of relations, you are required to carry out the following:

1. Write SQL*Plus commands to implement the relations as Oracle tables, and introduce appropriate constraints for the tables.

2. Write SQL*Plus commands to populate the tables. Tuples to be inserted into each table will be made available from the Learning Central.

3. Write SQL*Plus commands to implement the following queries:

   (a) List the names of customers who have ordered CDs or Disks.

   (b) Find how many orders contain either Cartridges or Papers.

   (c) List every item and the total number of customers who have ordered it.

   (d) Find the invoices that cover at least two deliveries.

   (e) Find the invoices that have not been fully paid yet.

4. Write an SQL*Plus command to generate invoice total for a given month for each customer as follows:

Customer Name	Delivery No	Item No	Description	Quantity	Item Price	Cost
==========	========	=======	================	========	=====	=====
Alex Smith	601223	I-23	Box of A4 Paper	6	1.20	7.20
		I-37	DVD-R Disks	30	0.70	21.00
	601225	I-87	USB Memory	10	2.30	23.00
						-----
sum						51.20

For each of the tasks, you need to submit your SQL code and the results. It would be a good idea that you create a single file to include all the SQL commands and the results.

Learning Outcomes Assessed

1. Understand the processing power of the relational DBMS
2. Explain the process of and the issues involved in database implementation
3. Show a basic understanding of database transaction management
4. Design a relational database system physically
5. Develop relational database queries using Structured Query Language (SQL)

Criteria for assessment

Credit will be awarded against the following criteria.

- A set of correctly created tables with suitable data types **[10 marks**]
- A set of correctly inserted tuples for the tables [**10 marks**]
- Correct SQL code and results for the 5 queries [**15 marks**]
- Correct SQL code and results for generating the invoices [**10 marks**]
- Query formatting and the readability of the results [**5 marks**]

Undergraduate

1st (70-100%)
2.1 (60-69%)
2.2 (50-59%)
3rd (40-49)
Fail (0-39%)

Feedback and suggestion for future learning

Feedback on your coursework will address the above criteria. Feedback and marks will be returned on 23th December 2020 via marked copies.

Feedback from this assignment will be useful for your future coursework.