

UFCFTK-30-1 Introduction to Databases

Assessment 1 (**25 Marks**)
Deadline: 13/12/2018 at 14:00

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1 Overview of the Assessment

This assessment which is the first part of component B assessment of the module requires you to finish 3 tasks related to the different stages of a database system design. It is worth 25% of the overall mark for the module. It assesses your understanding of the different stages of a database system development, the principles of relational databases and SQL, and the necessary skills to develop an end to end application.

The assessment is described in detail in Section 2.

This is an **individual assignment**.

If you have questions, please post them to the discussion board on Blackboard or contact the module leader.

2 Task Specification

You are required to design a database for a conference submission system which allows researchers to submit their research papers for consideration. The data requirements for the system are summarised as follows:

- Authors of papers are uniquely identified by email id. First and last names and country of residence of authors are also recorded.

- Each author is affiliated with an institution. An institution is identified by a unique id and has a unique name. Each institution belongs to a single country.
- Each paper is assigned a unique id by the system and has a title, abstract, and a submission date. A paper may have multiple authors, only one of whom is designated as the main author, i.e. the submitter.
- Each paper belongs to a single category, e.g. Hardware Security, CryptoCurrencies, etc. Each category is identified by a unique id and has a unique name.
- Reviewers are uniquely identified by a unique id. First and last names, a phone number, an email id, and a country of residence are recorded for each reviewer. Each reviewer is affiliated with an institution. A reviewer is associated with 1 or more categories that they can review. The policy of the conference is that a reviewer must not be an author.
- Each paper is assigned a number of reviewers for evaluation. A reviewer rates each paper assigned to him/her on a scale of 1 to 5, where 5 means the paper is excellent whereas 1 means the paper is poor. Each paper review has 2 types of written comments: one to be seen by the review committee only and the other as feedback to the author(s). The date each review has been completed is also recorded.
- Each paper must specify any conflict of interests (COIs) with any of the reviewers if any.

We also wish to record the average score of each paper.

You are required to finish all 3 following tasks:

- 1) Design a conceptual schema (using UML notation) from the above description (**8 Marks**)
- 2) Give the logical relational schema for the database including all constraints for all involved relations. Apply the necessary normalization (if required) to eliminate any redundancy from the relations (**8 Marks**)
- 3) Give the Oracle SQL DDL statements to create the tables corresponding to the relations in your logical schema including all the necessary constraints (**8 Marks**)

1 Mark will be given if the design reads as one cohesive design, i.e. the logical schema is a valid translation of the corresponding conceptual schema and the physical schema is a valid translation of the relational schema.

3 Deliverables

You need to submit a **report (hard copy)** by the **13th of December 2018 14:00** containing your answers for the above 3 tasks. You must test the SQL code for Task 3 before printing it and handing it in. For the first 2 tasks, it is up to you whether you would like to handwrite/typewrite your answers. However,

in any case clarity and intelligibility is required as you might lose marks if your answer is not clear.

Your report must be handed in to the Coursework Hub (Level 1 of A Block) by the above deadline. Please make sure that your diagrams and answers are intelligible. Please clearly write your full name and student ID number on ALL sheets of your report.

4 Plagiarism

While it is acceptable to discuss your assignment with your peers as per the university rules, this assignment is intended as an individual assignment. Submissions that are substantially similar will be subject to investigation according to university regulations and any proven cases will be dealt with according to the regulations. More details can be found here <http://www1.uwe.ac.uk/students/academicadvice/assessments/assessmentoffences.aspx>

5 Marking Criteria

	0 To 20%	20 To 40%	40 To 60%	60 To 80%	80 To 100%
Task 1	Little to no attempt.	A few of the entity types/relationship types are identified but there are a number of missing relationship/entity types and unspecified multiplicities.	Some entity/relationship types are correctly identified but some others are missing or have incorrect/missing multiplicities.	Most of the entity/relationship types are correctly identified and most of them have the correct attributes/keys. Most relationship types have the correct multiplicity.	The design is almost immaculate with very minor problems if any. Most if not all entity types have correct attributes and valid primary keys.
Task 2	Little to no attempt.	A few of the relations are correctly identified but many are missing/wrongly identified and/or have missing attributes/constraints.	Some of the relations are correctly identified but some are missing/wrongly identified and/or have missing attributes/constraints. Some relations have redundancy problems.	Most of the relations are correctly identified but a few are missing/wrongly identified and/or have missing attributes/constraints. Almost all relations are redundancy free (normalized to 3-NF).	An almost immaculate design with very minor issues. Almost (if not all) relations are redundancy free (normalized to 3-NF).
Task 3	Little to no attempt.	Only a few tables have been correctly/partially correctly created but many are missing or missing many details.	Some tables have been correctly created but some are missing or missing constraints/attributes. Some tables have redundancy problems.	Most tables have been correctly created and very few are missing or missing constraints/attributes. Almost all tables are redundancy free (normalized to 3-NF).	An almost immaculate design with very minor issues. Almost (if not all) tables are redundancy free (normalized to 3-NF).