IN3001/INM370 Coursework

The Structure of the Lab-based Coursework Assessment

Instructions

The coursework is open book. You **must not, however, communicate** to each other **in any way, including of course via use of mobile phones**! This will be treated as academic misconduct and the student(s) involved will receive **zero marks**, and/or even be subject to **more stringent sanction(s)**!

You **must** all be present **at least 20 minutes** before the start of the assessment! This is necessary for administering the coursework. Also, in this way, you will benefit from the reminders/announcements/clarifications I give to any of the students.
You must sign in the attendance sheet.
You must return the coursework hard-copies, including the Model Answer for Part I, to the invigilators before leaving the room, and put your names and signatures in the top right corner of the first page before doing so.

The coursework is divided in two parts: Part I and Part II (Part II consists of two sections).
You need to answer Part I first. You have X minutes to answer this part *and* submit it on the appropriate submission area of Moodle ("IN3001 Coursework Part 1" for IN3001 students, or "INM370 Coursework Part 1" for INM370 students).
After this, you will receive the questions for Part II, for both sections. You will have Y minutes to answer, *and* submit the answers in one file, for both sections of Part II on Moodle ("IN3001 Coursework Part 2" for IN3001 students, or "INM370 Coursework Part 2" for INM370 students).

For both Part I and Part II, write the answers using MS Word. Your answers must be submitted on Moodle. For each part you need to submit a single file, thus two files in total. The files must be in `.doc(x)` format. The file size, for either of the two submissions, must not be bigger than 10MB – that is plenty, given that you will need to submit text content only. Name each file in the format `Part_X_<student_login_id>.`

You *can, but not necessarily need to,* use the Oracle database, located on `nsq754ap.enterprise.internal.city.ac.uk`, to test your answers for Part I and Part II Section 1 before submitting them. Please log into Oracle database *before* the coursework and make sure your Oracle account is (still) operational. This is not essential for successfully answering the coursework questions, however.

You will be provided with a copy of the Model Answer for Part I before you attempt the questions in Part II – this is relevant for Section 1 of Part II.

You will also receive instructions on how to run a script that will provide you with the necessary database structure to answer Part II Section 1 questions. This script is **an additional aid** for you to successfully answer the questions in this section.

IMPORTANT: successful answering of Part II Section 1 questions **does not**, however, depend on this script executing properly, **or executing at all** – it is sufficient to have a copy of the Model Answer. Thus, it is **your choice** to run the script, or not!
We will try to create the script to alleviate any problems that might arise, but this might not be fully successful (e.g. because it depends on the schema structure in your database environment, etc.). If the execution of the script does not work – for whatever reason! – the lecturer and/or teaching assistants/invigilators *will not be in position* to help you debug this!

Questions

Part I - Oracle (ORDB) SQL:2011 schema

Consider the ER diagram below for the database of *system X*.
The database requirements are also given below, for completeness and to help your understanding of the ER diagram. Based on the ER diagram, and the requirements description, create an **object-relational database** (ORDB) schema using **Oracle SQL:2011 dialect**.

ER Diagram for *system X* database is given below.

The ER diagram will be shown here.

Notes:

i. All date values are in the following format DD-MMM-YY (e.g., 25-Dec-22)
ii. …

Textual description of the requirements for the *system X* database:
…

You have X minutes to answer the whole of Part I and upload it on Moodle to the dedicated Submission area. This must be done as a single file, in `.doc(x)` format. Name the file in the format `Part_1_<student_login_id>.`

Part I carries **X%** of the overall mark.

Part II

You have Y minutes to answer the whole of Part II – the answers for both Part II Section 1 and Part II Section 2 need to be uploaded on Moodle, as a **single file** (in `.doc(x)` format), before the deadline. Please divide the answers to Section 1 and Section 2 appropriately.

Name the file in the following format: `Part_2_<student_login_id>.`

Part II carries **(100-X)%** of the overall mark.

Part II Section 1 - Oracle (ORDB) SQL:2011 statements

A Model Answer for the database schema, needed for answering this section, is presented below in the Appendix A.

When writing your statements **YOU MUST USE THE DATABASE STRUCTURE AND THE NAMING CONVENTIONS (e.g. of TABLEs AND COLUMNs, etc.) AS SHOWN IN THE MODEL ANSWER.**

The Model Answer is available from the module's Moodle page too.

In addition to the printed copy, we also provide a script to create the Model Answer schema in your working space of the Oracle database server. This, however, is **not** absolutely necessary - successful answering of Part II Section 1 questions *does not depend* on this script executing properly, or executing at all. Thus, it is *your choice* to use it or not! If the execution of the script does not work – for whatever reason – the lecturer and/or teaching assistants/invigilators *will not be in position* to help you debug this!

Instructions to set up the Model Answer database schema

Use one of the following options to create the types and tables from the Model Answer schema:

1. Execute the following command in SQLDeveloper. Open a new file in SQLDeveloper, then copy and execute the following command (use "Run Script"):
   `@http://staff.city.ac.uk/…`
2. Copy the schema-creating commands from the Model Answer by accessing the file from `http://staff.city.ac.uk/...` or `https://moodle.city.ac.uk/...` and execute them in SQL Developer.
3. After logging into SQLcl command-line client tool, type the following command at the `SQL>` prompt:
   `@http://staff.city.ac.uk/…`

Important: This script will drop any tables or types you have created with the same name(s) as those shown in the Model Answer (see Appendix A).
You will receive warning messages that some types and tables do not exist during the script execution. This is an expected behaviour.
This script will not affect any tables you have created with names that do not match those in the Model Answer.
If the above execution is successful, you should have the schema for *system X*, described in Part I, created in your Oracle database.

Please answer the following questions using **object-relational approach** of **Oracle SQL:2011 dialect, not** its relational approach. You should submit your answers on Moodle, together with the Part II Section 2 (see below) in the appropriate submission area.

- SQL statement 1
- …
- SQL statement n

Part II Section 2 – Theory Questions (based on the lectures from Sessions 5-8)[1]

Please answer the following questions and submit the answers on Moodle together, in one file (in `.doc(x)` format), with your answers for the Part II Section 1 in the appropriate submission area.

- Question 1
- …
- Question n

[1] We purposefully avoid setting questions from the most recent lecture, so that you have enough time to learn and revise. Week 6 is the Reading Week.

Appendix A

Model Answer for Part I - Oracle ORDB SQL:2011 Schema

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