COMP20070 MySQL DB assignment (2018-19): University Recruitment Database

Purpose: The purpose of the assignment is the implementation of an application that stores data in a MySQL database.

STEP 1: create a new database and name it with a name composed of your surname and UCD student number (example: murphy123456). **Do not use either capital letters or any special character (e.g., apostrophes).**

STEP 2: your database will represent the following **scenario**: "Universities are recruiting for jobs with specific job descriptions including required skills (e.g., teaching, research, programming, administration, etc.) and may invite applicants for interviews".

Your database must include the following information and **may include any other information that you consider necessary for representing the concepts and implementing the queries listed below**:

- **Applicant details:** applicant identifier, firstname, surname address, telephone number, skills.
- **University details:** university identifier, university name, address, and telephone number.
- **Job description details:** job identifier, type of job, university offering the job, and skills required.
- **Interview details:** You must decide what information should be used to best represent this concept based on the constraints and information provided below.
- **Constraints:**
    - Each applicant can have many skills.
    - Each job can require many skills.
    - One university can request many interviews for a job description.
    - One applicant can be invited to many interviews in relation to a job description.
    - One university can hire many applicants in relation to a job description.

NOTE: *You must create table(s) and relationships that will allow you to represent the fact that interviews occur on particular dates. Your database should also represent whether an applicant is offered a job.*

STEP 3: For every table, create a stored procedure that includes a parametric query that allows you to insert a new row in such a table.

STEP 4: Implement the following queries (some of which are parametric) using stored procedures:

- Find the universities with a given name.
- Find the universities with a given university identifier.
- Find the applicants with a given surname.
- Find the applicants with a given applicant identifier.
- Find the applicants who have a skill required by a given job identifier.
- Find the job descriptions requiring a given skill.
- Find the job descriptions sorted according to the universities who are offering them.
- Find the number of applicants that have been offered a job.
- Find the number of job descriptions that require research skills.
- Find the interviews that occurred on a particular date.
- Find the name and applicant identifier of applicants that were interviewed at least twice.

STEP 5: export your database onto a self-contained .sql file **which should have the same name as your database** (example: murphy123456.sql).

STEP 6: prepare the **related documentation** as detailed in the next page (**deliverable 2**).

Rules

- Each section and subsection of the deliverables must be completed **individually**.
- **All questions should be directed to the demonstrators during lab hours.**

SUBMISSION INSTRUCTIONS: The deliverables (.sql file + documentation pdf file as described below) must be submitted to Moodle. In the course page, you will be able to submit your two files using the "**Submit Assignment**" button (submissions via email will not be accepted).

Deliverables:

1. The completed database, implemented using MySQL, exported and saved in a self-contained .sql file (**which should have the same name as your database as detailed in STEP 5**), MUST contain the following:

    - Tables used to correctly represent all concepts as described above (with appropriate primary keys, constraints, etc.) including additional attributes necessary to link the tables according to the required relationships (and any other assumptions you made).

    - Appropriate data types for all attributes and primary key(s).

    - Tables should be populated with **at least** 10 rows per table.

    - Correct queries as per information sheet implemented by means of stored procedures.

    REMEMBER TO CALL YOUR DATABASE WITH A NAME CONTAINING YOUR SURNAME AND STUDENT NUMBER (eg. murphy123456) AND THE FINAL SELF-CONTAINED .SQL FILE ACCORDINGLY.

2. **Supporting documentation** MUST be provided in one single PDF file including:
    - A short description of any assumptions made or additions to the information provided (e.g. reaction policies used and why they were used, etc.).

    - The Entity-Relationship (ER) diagram of your database (generated as described in lab Exercise 5).

    - Please write clearly in your documentation the operating system you used (Mac, Windows, Ubuntu, etc).

    - **CALL YOUR .PDF FILE WITH THE SAME NAME AS YOUR DATABASE.**

Submission deadline: Friday November 16th, 2018 at 5:00 p.m.