Faculty of Arts, Science and Technology

**CSY3024 (Databases 3)**

Level 6

Assignment 1 (2019/20)

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| Assignment 1 |

Weighting: **50%**

Submission deadline: **12th Jan 2020 (by 23:59 )**

Learning Outcomes Assessed:

LO1 Learning to learn: recognise their own major areas of weakness and accept the need for further work in those areas.

LO2 Design, build, and test a simplified database applications, corresponding to a particular specification.

LO3 Communication skills: outline the function and intercommunication between the various hardware/software components of a deployed application.

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| Introduction |

This assignment is compulsory as it is a major part of the formal assessment. **Read this document carefully and make sure that you are clear about what you have to do, and what you have to hand in, before you attempt the assignment.**

You could demonstrate your work to the module tutor during practical sessions for formative feedback prior to the submission date.

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| Assignment work |

This assignment has two main parts as below:

1. **Part 1 (50%)** – learning diary including lab exercises and reflection. Lab exercises will be given during usual teaching sessions. In the diary, the following can be included: approaches to the assigned tasks; what worked and what didn’t and the reason(s); what the solution(s) were; what have been learnt from the exercises and what still need to be improved, etc.

Note: 1) to get the highest grade for this part, students need to complete ALL the lab exercises with some extra attempts and write good individual reflection on them; 2) for the reflection, do not just summarise what’s covered in the lecture or what activities have been done; instead, students need to summarise their understanding of the topics being practiced, using their own words; 3) It’s students’ responsibility to keep their diary in a secure place such as Dropbox, or use online tools such as Google Doc;

1. **Part 2 (50%)** - development of a graph database for a given dataset, which can be found in the ‘Assignment’ section on NILE. The dataset contains information about the English Premier League (EPL) matches. Students are expected to design and create a graph database to visualise the dataset and to answer the following queries:
2. Show all the EPL teams involved in the season.
3. How many matches were played on Mondays?
4. Display the total number of goals “Liverpool” had scored and conceded in the season.
5. Which teams have the most and least shots in the season?
6. Who refereed the most matches?
7. How many matches “Arsenal” won as the away team?
8. Display all the matches that “Man United” lost.
9. Display all matches that “Liverpool” won but were down in the first half.
10. Write a query to display the final ranking of all the teams based on their total points.
11. Which team has drawn the most consecutive matches?

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| What should be submitted |

**ONE** single report (in the format of MS word or PDF) for both parts needs to be submitted on NILE. The report should be well structured (e.g., a Table of Contents is essential) and of high quality.

* **For part 1**, an overall reflection (word limit: 1000) on learning activities throughout the lab exercises should be included in the body of the report. At beginning of the reflection, students should state the number of exercises that have been completed successfully, the number of exercises that have been attempted but don’t work as expected; the overall reflection should be the summary of individual reflections in the diary; in addition to that, students should also describe overall what important knowledge/skills have been learnt and what still need to be improved. Exercise commands (as texts) and results (as screenshots) and individual reflection on exercises should be organised in a chronological order, and included in the report as an appendix.
* **For part 2**, students need to clearly document (word limit: 1000) the process of designing the graph model, building and querying the graph database for the given dataset. Solution ideas, properly commented solution codes (as texts) and results (as screenshots) are required in the main body of the report.

Note: Cypher codes (as text) can be attached as an appendix to the report. In that case, screenshots of the query solutions and results should be included in the report with proper explanation.

**Demo**: students are required to submit a 5-minute video demo, which is COMPULSORY and should at least include the following: whether all lab exercises are done, what were the challenges and how they were addressed, what have been learnt, what need to be improved, etc.; how and why the graph model was design. Due to the timing, students don’t have to talk through all queries, just pick a few that are worth highlighting. **Failure in submission of the video demo will automatically result in a ‘Fail’.** Students are recommended to upload the demo video in their own area of the internal storage (gallery) [video.northampton.ac.uk](https://video.northampton.ac.uk/); please use the default ‘**Unlisted**’ setting so that the uploaded video can be viewed by the marker. The link to the demo video should be on the front sheet of the assignment report.

**Note**: for EWO students who are not able to upload demo video to video.northampton.ac.uk due to access restriction, it is acceptable to upload the video demo to YouTube; please remember to change the setting to ‘**Unlisted**’ and put the video link to the front page of the assignment report.

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| What will be assessed |

* The lab exercise codes and results (from the appendix), and summary reflection on them (from the main report);
* The approaches and solution codes to build and query the graph database for a given dataset (from the main report);
* Quality of the report, e.g., structure of report, quality of writing and readability.
* Video Demo – e.g., quality of video and voice, and level of understanding and explaining own work.

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| Marking criteria |

will be assessed

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| Grade /Item (weighting) | PART 1 | | PART 2 | | Report Quality (both parts)  (20%) | Demo (both parts)  (10%) |  |
| Lab Exercises and Diary (20%) | Reflection Summary (15%) | Solutions (25%) | Quality of Solutions  (10%) |  |
| No submission | No submission of lab exercises and diary entries. | No reflection summary | Nothing submitted or substantially plagiarised. | No documentation of process. | Non submission | Non submission of video demo. |  |
| Fail | Significant lack of evidence of engagement - very few exercises have been attempted and/or very few entries in the diary. | Very poor quality of reflection; limited amount of writing. | Very little codes have been developed; none/very few of the queries have been attempted. | Poor quality of solution codes, difficult to read and understand. | The report is poorly written in terms of structure and quality of writing and readability. | Video demo is available, but of poor quality in terms of length, video and audio. |  |
| Pass | Most of the exercises have not been attempted and there are sufficient amount of reflection in the learning diary. | There are sufficient amount of reflection about learning activities throughout all the exercises. | Good amount of effort in creating the graph database for given dataset; a minimal number of queries have been attempted, some of which work corrected. | Code designs generally follow key concepts from lectures and lab exercises, but may contain major issues. | Report contains a basic structure but no or very limited amounts of content have been added. No evidence of reflective comments. Very limited number of sources in the bibliography. | Video demo is acceptable in terms of length, video and audio quality. |  |
| Good | All exercises have been completed and there are good evidences of reflection in the learning diary. | Good reflection about the learning activities throughout the exercises. | A good graph database has been created, there are some minor issues; and most of the queries have been answered correctly. | Code designs generally follow key concepts from lectures and lab exercises, there are a few minor issues. | Report is descriptive. An attempt at documenting some of the required process has been made and is accurate. Some evidence of reflective comments. Bibliography is in Harvard style. | Good video demo in terms of length, video and audio quality; good understanding of subject matters and explanation of own work. |  |
| Excellent | All the exercises have been completed and there are quality reflection on the learning activities. | High quality reflection about the learning activities has been written. | The database creation is almost perfect, most of the queries have been answered correctly. | Code designs closely follow key concepts from lectures and lab exercises; there is no issue observed. | Report is very well written in terms of structure, writing quality and readability. Evidence of reflective comments and additional reading by a relevant Harvard style references. | Excellent video demo in terms of length, video and audio quality; the way of conduct the demo and explanation of assignment work is of high quality. |  |
| Outstanding | All the exercises have been completed and there are evidence of extra attempts/tests of commands for extending understanding of subject knowledge and further development of skills. | Exceptionally good reflection on the learning activities throughout the learning process; the writing is concise and well structured. | An outstanding design of the graph database based on the given dataset; all the queries have been answered correctly. | Exceptional quality of database design and query solutions. | An excellent report that shows extensive reflection on the work conducted with substantial evidence of additional reading and critical thinking of subject matters. Where appropriate , arguments are well supported by Harvard style references. | An outstanding video demo in all aspects. | . |