



Unit Title: DATA AND DATABASES (COMP4030)		
Resubmission Assessment Title: Database Implementation		
Unit Level: 4	Reassessment Number: 1 of 1	
Credit Value of Unit: 20	Date Issued: 10/07/2023	
Unit Leader: Gernot Liebchen	Submission Due Date: 04/08/2023	Time: 12:30 PM
Other Marker(s): N/A	Submission Location: Large File Submission Box (Code)	
Quality Assessor (QA): Mohammad Naiseh	Feedback Method: Brightspace	

This is an individual assignment which carries 50% of the final unit mark.

REASSESSMENT TASK

You are required to complete the following:

1. Implement the database design as supplied in **Figure 2** below.
NOTE: Figure 1 is only there to help you to figure out which tables are link tables.
2. Produce all create, insert, select and drop scripts for the given scenario.
3. Implement the required queries for the given case study in **Oracle SQL**.
NOTE: All queries **have to work on the Oracle database used throughout the unit**. Use of other languages (e.g. MySQL) **will be penalised**.

Any assumptions made can be included as code comments in the submitted file. Please indicate cardinalities and optionalities with comments in the instances that represent them.

Limit the amount of instances to a **maximum of eight instances for each table that is not a link table**.

Case Study: XYZ Contractors (XYZC)

With the success of XYZ Academic Computing Institute for Development (XYZACID) the owners of the parent company decided to diversifying into project contracting. This means that they created a new company XYZ Contractors (XYZC).

XYZC has several working groups (or teams), and each group has several employees working with a team. That means that an employee is a member of one group and only one group, and a group naturally has several members. All employees are members of a group.

Most, but not all employees work on projects for other companies, and projects can be individual projects or projects involving different employees from the different working groups.

XYXC wants to record and model the research collaboration in the company. For that purpose, you are tasked to implement a database, populate it with test data, and run some example queries.

The conceptual and logical ERDs (Figures 1 and 2) were designed already, and they will be the blueprint for your development.

Required Report List

1. A list of all the employees with their name, the year they went into the industry, and their employment date. IDs should not be shown as it confuses the management.
2. A list of all employees and the working group they are member of. Again, do not show the research group IDs, and list the details of the working groups, such as the date they were established, and their work moto.
3. The details of one employee, their working group details, and the number of projects they were working on.
4. The top three working groups with the most projects.

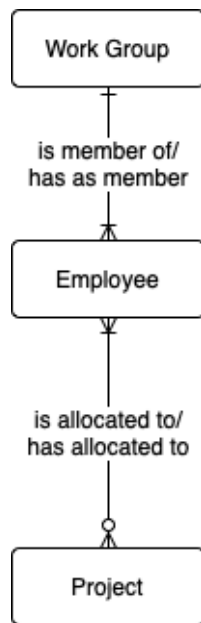


Figure 1: Conceptual ERD for XYZC

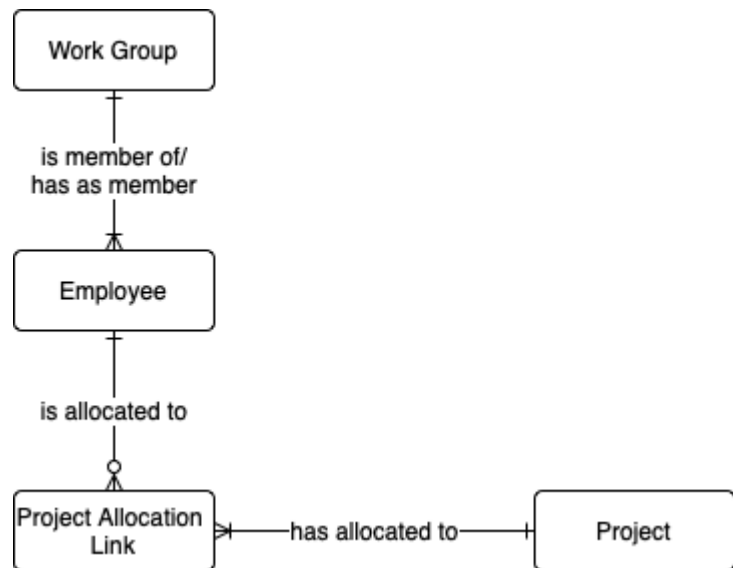


Figure 2: Logical ERD for XYZC

```

--CREATE SCRIPTS
/* put your create scripts here - your script should not be commented out */

--INSERT SCRIPTS
/* put your insert scripts here - your script should not be commented out */

--SELECT SCRIPTS
/* put your select scripts here (with indication of which query is answered by each) - your
script should not be commented out */

--DROP SCRIPTS
/* put your drop scripts here (in the correct order) - your script should not be commented out
*/
    
```

Figure 3: File Template

RESUBMISSION FORMAT

Electronic; via Assignment Submission on Brightspace

You **MUST** lay out your SQL code as shown in **Figure 3** above and **only submit ONE .SQL file**.

MARKING CRITERIA

The following criteria will be used to assess the assignment:

Criterion 1	Implement tables in SQL from a given ERD (ILOs 3 and 4). 30%
Criterion 2	Insert data into tables with consideration of cardinalities from given ERD (ILOs 3 and 4). 20%
Criterion 3	Provide drop table scripts (ILOs 4). 5%
Criterion 4	Setup script (ILOs 4). 10%
Criterion 5	Select scripts (ILOs 4). 35%

Refer to the attached Marking Criteria Breakdown for more detail.

INTENDED LEARNING OUTCOMES (ILOs)

This unit assesses your ability to:

1. Explain the relational model and its significance in database technology.
2. Demonstrate a basic knowledge of the functioning of a Database Management System (DBMS).
3. Design relational databases using the techniques of Entity-Relational Modelling and Normalisation.
4. Create and manipulate relational databases using Structured Query Language (SQL).
5. Demonstrate a basic knowledge of data and its processing.

QUESTIONS ABOUT THE BRIEF

Questions about the assignment brief can be asked via the unit's MS Teams channel (@Gernot Liebchen).

Unit Leader Signature Gernot Liebchen

Help and Support

Undergraduate Coursework Reassessments

If a piece of coursework is not submitted by the required deadline, the following will apply:

Failure to submit/complete any other types of coursework (which includes resubmission coursework without exceptional circumstances) by the required deadline will result in a mark of zero (0%) being awarded.

The Standard Assessment Regulations can be found on **Brightspace** or via

<https://www1.bournemouth.ac.uk/students/help-advice/important-information> (under Assessment).

Exceptional Circumstances

If you have any valid **exceptional circumstances** which mean that you cannot meet an assignment submission deadline and you wish to request an extension, you will need to complete and submit the online Exceptional Circumstances Form together with appropriate supporting evidence (e.g. GP note) normally **before the coursework deadline**. Further details on the procedure and links to the exceptional circumstances forms can be found on **Brightspace** or via

<https://www1.bournemouth.ac.uk/students/help-advice/looking-support/exceptional-circumstances>. Please make sure that you read these documents carefully before submitting anything for consideration. For further guidance on exceptional circumstances please contact your Programme Leader.

Referencing

You must acknowledge your source every time you refer to others' work, using the **BU Harvard Referencing** system (Author Date Method). Failure to do so amounts to plagiarism which is against University regulations. Please refer to

<https://libguides.bournemouth.ac.uk/bu-referencing-harvard-style> for the University's guide to citation in the Harvard style. Also be aware of Self-plagiarism, this primarily occurs when a student submits a piece of work to fulfill the assessment requirement for a particular unit and all or part of the content has been previously submitted by that student for formal assessment on the same/a different unit. Further information on academic offences can be found on **Brightspace** and from <https://www1.bournemouth.ac.uk/discover/library/using-library/how-guides/how-avoid-academic-offences>

Additional Learning Support

Students with **Additional Learning Needs** may contact the Additional Learning Support Team. Details can be found here:

<https://www1.bournemouth.ac.uk/als>

Primary Research (Undergraduate Levels)

You should not be conducting any primary research (i.e. carrying out an investigation to acquire data first-hand, for example, where it involves approaching participants to ask questions or to participate in surveys, questionnaires, interviews, observations, focus groups, etc.) unless otherwise specified in the brief. However, if there is a genuine requirement to collect primary research data you will require ethical approval before doing so. In the first instance, please discuss with the Unit Leader. The collection of primary data without appropriate ethical approval is a serious breach of Bournemouth University's [Research Ethics Code of Practice](#) and will be treated as Research Misconduct.

IT Support

If you have any problems submitting your assessment please contact the IT Service Desk - +44 (0)1202 965515 - immediately and before the deadline.

Disclaimer

The information provided in this assignment brief is correct at time of publication. In the unlikely event that any changes are deemed necessary, they will be communicated clearly via e-mail and Brightspace and a new version of this assignment brief will be circulated.

MARKING CRITERIA - BREAKDOWN

Criteria	Comments (points are indicative only)	Indicative Grade Ranges
Criteria 1 Create Tables (max. 30 points)	No issues with: <ul style="list-style-type: none"> - Design/implementation consistency - Foreign Key/Primary Key usage - Application of data types - Application of constraints - Consistency of table, attribute, and constraint names 	23 to 30
	Only minor issues with: <ul style="list-style-type: none"> - Design/implementation consistency - Foreign Key/Primary Key usage - Application of data types - Application of constraints - Consistency of table, attribute, and constraint names 	15 to 22
	Consistent and repeated issues with: <ul style="list-style-type: none"> - Design/implementation consistency - Foreign Key/Primary Key usage - Application of data types - Application of constraints - Consistency of table, attribute, and constraint names 	8 to 14
	Tables are over-simplified, missing integrity or referential constraints, inconsistent naming strategy	0 to 7
Criteria 2 Insert Scripts (max. 20 points)	The test data is consistent with the design's cardinalities. This includes considerations of optional and mandatory participations.	16 to 20
	The test data is largely consistent with the design's cardinalities. This includes considerations of optional and mandatory participations.	11 to 15
	The test data is somewhat consistent with the design's cardinalities.	6 to 10
	Test data is provided, but no effort has been made to reflect the cardinalities.	0 to 5
Criteria 3 Drop Tables Script (max. 5 points)	Script will drop all tables (scripts in the correct order)	3 to 5
	No drop script; most tables remaining after one run	0 to 2
Criteria 4 Setup Script Organisation (max. 10 points)	Script uses template shown in Figure 3, clear identification of scripts, comments, .sql file	6 to 10
	Unclear structure	0 to 5
Criteria 5 Select Query Scripts (refer to Required Report List -max. 35 points – the sum of the points for queries may exceed this, but not the total)	<p>Query 1: A list of all the employees with their name, the year they went into the industry, and their employment date. IDs should not be shown as it confuses the management. 1 point for select statement + 1 point for the projection. Total around 2.</p> <p>Query 2: A list all employees and the working group they are member of. Again, do not show the research group IDs, and list the details of the working groups, such as the date they were established, and their work moto. 1 point for the correct number of tables (2) + 1 point for projection (no IDs) + 3 points for join (1 join). Total around 5.</p> <p>Query 3: The details of one employee, their working group details, and the number of projects they were working on. 1 point for the correct number of tables (3) + 1 point for projection (no IDs) + 6 points for join (2 joins) + 3 points for correct use of aggregation. Total around 11.</p> <p>Query 4: The top three working groups with the most projects . 1 point for the correct number of base tables (3 - there may be nested queries) + 4 points for projection + 9 points for joins (3 joins - plus 1 potential nested query) + 3 points for correct use of aggregation + 5 points for restriction. Total around 22.</p>	Up to 35