LEEDS BECKETT UNIVERSITY

Database Systems

Assessment Handbook

2019/20 Students

Level 5, Semester A

(20 Credits)

Student Name	_____
Email Address	_____
Course	_____ Group_____
Module tutor	_____

Communication Protocol: *module staff will reply to student questions within a reasonable time but this will normally be within office hours only. Students are advised to check this Handbook and also to see if there are any online announcements or FAQ answers that deal with their enquiry before contacting staff.*

Contents

1. Summative Assessment

Coursework Assessment

This document contains all relevant details of this assignment (requirements, submission details etc.) in the following pages.

A Note on Assignment Submission

The required assignment work for this module must be submitted electronically via the appropriate VLE upload link – this applies to the original submission and to any deferral or reassessment work. *Do not email attachments to the module team's mail addresses, or hand in a paper (printed) copies of the work, they will not be accepted.* Familiarity with the VLE process and any problems with VLE upload are each student's responsibility to address, and you must make yourself familiar with the procedures in good time, so that you are able to meet the submission requirements.

You are reminded that it is your responsibility to ensure that your work is submitted on or before the due date.

1.1 Assessment Details

Relational databases systems implemented using software such as Oracle (Oracle Apex) are significant within any businesses that stores and manages data, and core to any Computing related course (Date, 2008).

On this module you will learn and be assessed on the application of the Software Development Life Cycle (SDLC) using RAD methodology primarily (from analysis of data requirements through to implementation and testing).

1.2 Phase Test (Closed Book) 30%

Module name and CRN			**Database Systems -14103**		
Module Leader			**Sanela Lazarevski**		
Semester	A	**Level**	5	**Approx No of Students**	100

ASSIGNMENT TITLE: Phase Test on SQL and PL/SQL
Assignment 1: Phase Test – CLOSED BOOK
ASSIGNMENT WEIGHTING: 30%
HAND-OUT DATE: September 2019
SUGGESTED STUDENT EFFORT: 60 hours
SUBMISSION DATE: Phase Test is 60min taken in class w/c 4th November 2019.

SUBMISSION INSTRUCTIONS: 60min test.
FEEDBACK MECHANISM: Formative scheduled on weekly bases in the tutorial session. See weekly schedule. Summative work – via an appointment meeting with Module Leader.

NOTE: The usual University penalties apply for late submission – please see your course handbook.

LEARNING OUTCOMES ADDRESSED BY THIS ASSIGNMENT:
LO1: Identify appropriate constraints using procedural and none procedural database programming languages.

NOTES:
This is an individual assessment. Students who miss a Phase test will be allowed to take the reassessment test in July 2020. The mark will be capped at 40%.

Students granted a deferral as a result of extenuating circumstances will also take the reassessment test but will have the full range of marks available. The reassessment phase test will take place on the July 2020.

1.2.1 Phase Test specification

The Phase Test will take place during your two-hour tutorial lab session in week 6. The phase test is 60min, closed book. You must arrive in time as the test will start in the first hour of your tutorial. **If you do not attend this exam, your next opportunity will be the reassessment in July 2020.**

You will be tested on your knowledge of procedural and none procedural database programming languages, such as DDL, DML, SQL and PL/SQL.

The test includes 30 questions, divided across three parts; you are expected to answer all questions. Each question is worth ONE mark. Practice materials are your tutorials and lecture notes examples, which are available in folders for weeks 1-5 on MyBeckett.

1.3 Assignment 2 (70%) - Coursework

Module name and CRN			**Database Systems -14103**		
Module Leader			**Sanela Lazarevski**		
Semester	A	**Level**	5	**Approx No of Students**	100

ASSIGNMENT TITLE: Design, Implement and Test DBMS for the Case Study organisation using Oracle Apex

ASSIGNMENT WEIGHTING: 70% (two parts)
HAND-OUT DATE: September 2019
SUGGESTED STUDENT EFFORT: 110 hours

SUBMISSION DATE:
Part 1 (40%) - an upload on 15th December 2019 by 22.00;
Part 2 (30%) – an upload on 6th January 2020 by 22.00 and Demo
(to be marked by DEMO in the FIRST tutorial session followed by the submission date)

You are expected to use the ***AssignmentTemplates for each part***, available on MyBeckett.

SUBMISSION INSTRUCTIONS: upload via VLE (part 1 and 2) and DEMO (part 2)
FEEDBACK MECHANISM: individual feedback during the demo, general feedback within 2-3 weeks.

LEARNING OUTCOMES ADDRESSED BY THIS ASSIGNMENT:

LO2: Build an advanced database system and applications to meet a set of user requirements using appropriate models and tools.
LO3: Identify, design, implement and test procedural, reusable code to meet the requirements of a given case study.

NOTES:
This is an individual assessment. Submission of an assessment indicates that you, as a student, have completed the assessment yourself and the work of others has been fully acknowledged and referenced.
By submitting this assessed work, you are declaring that you are fit to submit, and you will therefore not normally be eligible to submit a request for mitigation for this work.
If you fail to attend the demonstration at the scheduled date and time without agreed mitigation, you will be given one further opportunity to demonstrate your work (incurring a 5% late penalty) at a time scheduled by the module team. If you miss this second opportunity, your result will be recorded as Non-Submission. If your result is recorded as Non-Submission or your mark for this assessment and for the whole module is below 40%, you will have opportunity to take reassessment in July 2020 (see Reassessment information below). If you are granted deferral through the mitigation process, you may attend the reassessment demonstration with a full range of marks available.
For further information, please refer to your Course Handbook or University Assessment Regulations.

1.4 Assessment Details

See **Appendix 1** for the Case study. Important note: please note that you need to choose only one of the three options in the Case Study to design, implement and test.

1.5 Part one (40%):

1. Produce an Entity Relationship Model (ERM) for the selected part of the Case Study requirements. List 4-6 Validation questions for your model. Please use case tool QSEE (new SEMANTIC Pad) for your data model. **[30 Marks]**
2. Considering and justifying **Logical and Physical Design Stage** decisions. Produce a brief discussion for your choices. List any changes that you have made to the final physical Model. **[10 Marks]**
3. Forward engineer your final data model (incorporating any decisions made in Task 2) to create tables. Consider carefully declarative constraints for your tables. Insert suitable and well-planned data. Create a **view** based on your table(s) and write a code to test it. Use **SQL Scripts Environment** for the whole task. **[30 Marks]**
4. Produce an Application with **five SQL Apex Reports** based on your validation questions in task 1. Your SQL Apex Reports should be of an intermediate and advanced level. **[30 Marks]**

1.5.1 Deliverables Part 1

Submit a single compressed file, i.e. zip- not a rar file! The file should include:

Evidence your work *using the Assessment TemplatePart1 (found on VLE)* include:

- a document file with your data model (tasks 1-2), tasks 3-4 should include screen shots evidencing your **student id** and show that the code for the task is working successfully (or not). We expect to see code and data for each table clearly, not just screenshot of 'no errors'. Where appropriate show evidence of code being tested. e.g. View images.
- An export of the script with the code for your tables, data and view (DDL, DML and Apex SQL based Reports).

Important note: You must use your own University Oracle Apex account to produce this assignment.

1.6 Part two (30%):

For this part you will first need to decide which of the key database areas will be the emphasis of your database solution. Select one of the options below:

a) The security of your data by implementing server and client-side solutions (e.g. User log in, password hashing, audit of user tables and data).
b) Importance of programming, validations and other Apex features to ensure data quality.
c) Data maintenance (batch updates) of an existing DB system.

Based on your decision and the part 1 solution (provided as part of the feedback) complete the following tasks:

1. Plan and produce either two triggers as a procedural constraint OR a package using PL/SQL that will include at least one function and one procedure. Either choice for implementation should also have testing code.

2. Build an Application in Application Builder either a desktop or mobile type. Include a home page and at least one Form/Page should be a Master/Detail type that will allow CRUD functionality. Higher marks will be awarded for applications which effectively utilise a good range of APEX functionality depending on your database key aspects are that you've selected to implement. Produce as well, complementing chart/dashboard for your application.

Important note: You must use your own University Oracle Apex account to produce this assignment.

1.6.1 Deliverables Part 2

Submit a single compressed file i.e. zip- not a rar file! The file should include:

Evidence your work *using the Assessment TemplatePart2 (found on VLE)* that is
- a document file with screen shots, evidencing your **student id** and where the code for the task is working successfully. (Where appropriate show evidence of code/application being tested. e.g. View images)
- A brief discussion of your implementation, for task 1 and for each screen shots task 2 (between 40-50 words).

In the zip include an export of
- Apex Application (export application),
- SQL for tables (DDL and DML),
- SQL Reports code and PL/SQL (triggers, package, function and procedure),
- and a copy of the actual SQL code (all apart from Application Builder code) in the Appendices of your document file!

This assessment is assessed **via a product demonstration** during a scheduled time.

You must upload your work to the VLE *using the Assessment TemplatePart2 (found on VLE) for this submission,* by the deadline. Your uploaded work will be used for moderation purpose and by the External Examiner therefore providing evidence of your work is very important.

If you do not attend the scheduled demonstration for the assessment, you will be given one further opportunity at a time which will be announced via the VLE. A 5% penalty will be applied to your mark for late demo. *If you miss the late demonstration opportunity, your mark for the assignment will be recorded as Non-Submission and you will fail the module.* Note that if you upload your work but fail to attend demonstration session a mark of 0 will be recorded.

1.6.2 Part 2 - Preparation Guidance for the Demo (READ!)

There will normally be two tutors in the lab marking the work, but only one per student. In some cases, two tutors will mark your work for moderation purposes.

- We suggest you demo your tasks in the order of the assessment tasks.
- These are some sample questions your tutor may ask you during your demo session (if applicable):

- Explain your PL/SQL code. What does this do “return floor(months_between(date_start,date_finish)/12);”
- Explain your SQL code. What does the join part do? Why do we write a self-join query?
- Demo that you can insert, update and delete data from your master/detail form.
- Why did you choose this Chart? How is it useful? What advanced features has your report got?
- What advance Apex features have you implemented?

- You are being assessed on your understanding of your developed application and the underlying principles, **NOT just your ability to navigate round it**. Marks may be reduced due to poor understanding or explanation. Read marking schema.
- A demo schedule will be produced and you should be ready to do the demo when the tutor approaches you.
- It is your responsibility to demonstrate your application in a way that provides evidence to your tutor that you have met the specification of the application, the marking criteria provided and have a good understanding of the subject.
- **You are strongly advised to PRACTICE your demo, so that you make full use of the limited time.**
- We realise that a maximum of 7 minutes may not seem much – however, experience suggests that an application can be adequately demonstrated at this time if the demonstration is WELL PLANNED.

Please see the marking sheet as a separate document.

2 Reassessment/Deferral for Assessment

Reassessment(s) will be available online at the end of the module. A new case study will be given for students to work on for their reassessment or deferral work. Please note that each failed component (Phase Test (30%) and/or Course work (70%)) will have to be reassessed if you have achieved a mark below 40% on the module.

The reassessment and deferral will be assessed via a test in class, in July 2020. The exact time and date will be uploaded on VLE by May 2020.

2.1 Component 1 (30%) - Reassessment

Module name and CRN			**Database Systems - 14103**		
Module Leader			Sanela Lazarevski		
Semester	A	Level	5	Approx. No of Students	TBC

ASSIGNMENT TITLE: Phase Test – Closed book
ASSIGNMENT WEIGHTING: 30%
HAND-OUT DATE: February 2019
SUGGESTED STUDENT EFFORT: 30 hours
SUBMISSION DATE: Phase test in class, 60min July 2020
SUBMISSION INSTRUCTIONS: *closed book test in lab*

FEEDBACK MECHANISM: Feedback via MyBeckett within 3 weeks of submission

LEARNING OUTCOMES ADDRESSED BY THIS ASSIGNMENT:

Learning Outcomes Assessed:	LO1: Identify appropriate constraints using procedural and none procedural database programming languages.

NOTES:
This is an individual assessment. You must complete this reassessment if you have failed overall module and failed this component 1. Submission of an assessment indicates that you, as a student, have completed the assessment yourself and the work of others has been fully acknowledged and referenced.

If you miss this second opportunity, your result will be recorded as Non-Submission.

For further information, please refer to your Course Handbook or University Assessment Regulations.

2.2 Component 2 (70%) - Reassessment

Module name and CRN			**Database Systems -14103**		
Module Leader			**Sanela Lazarevski**		
Semester	A	**Level**	5	**Approx. No of Students**	TBC

ASSIGNMENT TITLE: **Report and Exam**

ASSIGNMENT WEIGHTING: 70%

HAND-OUT DATE: February 2020
SUGGESTED STUDENT EFFORT: 90 hours
SUBMISSION DATE: Report (VLE upload) and Exam in class, July 2020

SUBMISSION INSTRUCTIONS: Report upload, first week of July 2020. Exam in scheduled 2-hour session.

FEEDBACK MECHANISM: Feedback via MyBeckett within 3 weeks of submission

LEARNING OUTCOMES ADDRESSED BY THIS ASSIGNMENT:

Learning Outcomes Assessed:	LO2: Build advanced database system and applications to meet a set of user requirements using appropriate models and tools.
	LO3: Identify, design, implement and test procedural, reusable code to meet the requirements of a given case study.

NOTES:
This is an individual assessment. You must complete this reassessment if you have failed overall module and failed this component 2. If you have failed and/or failed to submit both parts of the original assessment, and/or failed to achieve overall 40% for component 2, you are expected to submit Report and attend Exam for this assignment.

Submission of an assessment indicates that you, as a student, have completed the assessment yourself and the work of others has been fully acknowledged and referenced.

If you fail to attend the demonstration at the scheduled date and time, your result will be recorded as Non-Submission.

For further information, please refer to your Course Handbook or University Assessment Regulations.

3 Feedback

In the previous sections it is explained how you will receive feedback on each assessment component. Also, check weekly schedule for all formative feedback opportunities on this module.

You will have the opportunity to feedback formally at the end of your module. These comments will be reviewed by your course team and some may be considered at your annual course enhancement meeting. Your Course Representative will attend this and take your views to this meeting for discussion.

4 Understanding Your Assessment Responsibilities

Mitigation and Extenuating Circumstances

If you are experiencing problems which are adversely affecting your ability to study (called 'extenuating circumstances'), then you can apply for mitigation. You can find full details of how to apply for mitigation at: www.leedsbeckett.ac.uk/studenthub/mitigation.htm.

The University operates a fit to sit/fit to submit approach to extenuating circumstances which means students who take their assessment are declaring themselves fit to do so.

Late Submission

Without any form of extenuating circumstances, standard penalties apply for late submission of assessed work. These range from 5% to 100% of the possible total mark, depending on the number of days late. Full details of the penalties for late submission of course work are available at www.leedsbeckett.ac.uk/public-information/academic-regulations.

Academic Integrity

Academic misconduct occurs when you yourself have not done the work that you submit. It may include cheating, plagiarism, self-plagiarism, collusion and other forms of unfair practice. What is and what is not permitted is clearly explained in *The Little Book of Academic Integrity* which is available to view at: www.leedsbeckett.ac.uk/studenthub/academic-integrity.

The serious consequences of plagiarism and other types of unfair practice are detailed in section 2.9 of the Regulations at www.leedsbeckett.ac.uk/public-information/academic-regulations

Appendix 1: Case Study Cars4U

A Cars4U vehicle hire company wishes to develop a centralised database for its operations. Currently each regional office is free to manage its own affairs, often done using spreadsheets. This has resulted in a multitude of contradictory systems, some manual, some computerised, with consequent data duplication and delays in terms of drawing up hire agreements, redistributing vehicles to customers after inspection etc...

Cars4U wishes that the new system holds standard profiles of customers details, vehicles held, all hire arrangements and details of hire, to streamline the processes of drawing up a hire contract at the outset and settling it at the conclusion of hire.

Requirements of the new system

You are asked to select only one option to design and later implement database system. We suggest that you read them all to begin with, before selecting one for your assignment. We suggest that you use assumptions to justify your interpretations of the given requirements. Consider which of the options would best support full implementation that is suitable for your course, e.g. forensics students security aspects of the system.

Commented [LS1]: new

Option 1: Reduction of bureaucracy

An important objective is to reduce the turnover period between the dropping of a vehicle and its readiness for subsequent hire. In cases where the fuel tank is not full an assessment of cost of refill is made on the spot. If the check-in inspector is dissatisfied with the state of the car, or for whatever reason the check-in of the vehicle is not routine, then the driver and car are referred to the Special Check-In centre where more detailed procedures are followed.

If the customer has kept the vehicle longer than the stipulated period, then a surcharge is effective at a given multiple per day late of the daily hire charge.

Option 2: Hire

CARS4U caters for both corporate and individual customer hire. Corporate customers are allocated a type, gold, silver or bronze based on the frequency of hire arranged in the contract.
Vehicles on corporate and/or individual hire can be collected at any centre and dropped at any centre (with no surcharge for a different centre). Hire charges are based on vehicle classifications (e.g. Luxury Saloon, Basic Hatchback ....) Each classification will include a variety of models (e.g. Ford Fiesta 1.1, Fiat Panda ....are in the 'Basic Hatchback' classification). Charges for classifications are by the day. A customer collecting a car at a particular centre will be charged according to the charges for that centre.

Option 3: Customer Details and Options

In the case of a Corporate Customer (hereafter called the Company) there may be several regional offices associated with the Company in different locations (for example BT Leeds, BT Newcastle ...) The account that the Company holds with CARS4U may be held at the Company headquarters even though the hire arrangements may be conducted with regional offices. Alternatively each Company regional office may act independently of the Company headquarters in handling both financial and hire arrangements with CARS4U.

Some individual customers require insurance, which may be of different classifications depending on coverage of 3rd part claims, damage to the vehicle, injury to the passenger etc. In the case of company hire CARS4U takes no responsibility for the insurance of the company's employees. This is the responsibility of the company. Some customers have requirements regarding car accessories, for example: a bike or roof rack, or a baby seat, etc. from CARS4U. Additional charges (per day) are made for these and checks are made on their condition on return.

Loyalty Discounts are available to customers (whether individual or corporate) hiring single vehicles and are based on the total number of vehicle-days for the customer in the previous year. In the case of a company this is aggregated over all regional offices.