



SCHOOL OF ARCHITECTURE, COMPUTING & ENGINEERING

Submission instructions

- All the group members must be listed on the first page of the assignment.
- All pages to be numbered sequentially
- All work has to be presented in a ready to submit state upon arrival at the ACE Helpdesk. Assignment cover sheets or stationery will **NOT** be provided by Helpdesk staff

Module code	CN5000 / CD5000		
Module title	Database Systems		
Module leader	Arish Siddiqui		
Assignment tutor	Arish Siddiqui, Mustansar Ali, Solomon Alexis, Hisham AbouGrad, Joseph Annan, Nabeela Altrabsheh.		
Assignment title	Coursework: Group assignment		
Assignment number	1		
Weighting	80%		
Handout date	17-OCT-2022		
Submission date	15-Dec-2022		
Learning outcomes assessed by this assignment	1,2,3,4,5,6,7,8,9 and 10		
Turnitin submission requirement	YES	Turnitin GradeMark feedback used?	No
UEL Plus Grade Book submission used?	NO	UEL Plus Grade Book feedback used?	
Other electronic system used?	email	Are submissions / feedback totally electronic?	yes
Additional information			



Form of assessment:

- Individual work Group work

For **group work** assessment which requires members to submit both individual and group work aspects for the assignment, the work should be submitted as:

- Consolidated single document Separately by each member

Number of assignment copies required:

- 1 2 Other

Assignment to be presented in the following format:

- On-line submission
 Stapled once in the top left-hand corner
 Glue bound
 Spiral bound
 Placed in a A4 ring bound folder (not lever arch)

Note: To students submitting work on A3/A2 boards, work has to be contained in suitable protective case to ensure any damage to work is avoided.

Soft copy:

- CD (to be attached to the work in an envelope or purpose made wallet adhered to the rear)
 USB (to be attached to the work in an envelope or purpose made wallet adhered to the rear)
 Soft copy not required

Note to all students

Plagiarism is a serious offence --please do not jeopardise your degree and please submit your assignment before the due date.

Group assignment– design, develop and document a prototype Database system

This assessment should be attempted in groups of **3-4 students** to design and implement a database system in Oracle based on the case study below. Your group will be expected to identify the management needs of the organisation and present how they are solved and dealt with by your database design and implementation.

You must keep regular minutes of any meetings that you have while undertaking this course work as they will be required if there is a dispute about any members' contribution.

Your minutes should:

- be dated
- include a list of all group members present and apologies for any absences
- include allocation of work to be achieved by each member by the next meeting
- include the time, date and venue of the next meeting
- be signed to indicate the agreement of all group members, present or not.

You are required to submit with your Assignment a statement signed by each member of the group stating that you have all participated and that the mark awarded should be shared equally. Without this statement marks cannot be allocated

In the event of a dispute about a particular member's contribution to the coursework, you should make an appointment with the module leader no later than 1 week before the submission date. All group members will be required to attend this meeting. The module leader's reserves the right to alter an individual's grade in the light of any evidence of unequal contribution. It is envisaged that such occurrences will be rare.

All individuals will receive the group grade for this course work unless clear evidence is provided of unequal contributions.

Vehicle Sale and Rental Database Design and Implementation

Vehicle Mart is a vehicle sale and rental agency, which sells and lets vehicle of various customers to customers (C2C). The head office (HO) of Vehicle Mart is in London but looking to expand across the UK. The agency is using basic database system to maintain their data, but due to technological advancements and lack of capturing the market. In addition to London, they recently opened two new branches in Manchester (MB) and Birmingham (BB). Assume they hire you as a technical consultant for replacing the old-fashioned file system with new database system.

The agency deals with the following Types: Sedan, Coupe, Crossover, Hatchback, Pickup, Van and SUV. They cover the following Cities: London, Manchester, Bolton, Liverpool, Leicester and Birmingham. The price of each vehicle is maintained as current price where a time/date object is associated with each change. We assume there is one change of price every fortnight.

In each branch, the agency has a receptionist, who is responsible for guiding the customers and booking their timeslot for either Purchasing or Leasing the Vehicle. The customers can book their timeslots either online/phone or in-person. The agency intends to use online system where customers can reserve vehicles online, but the process will need to be completed in-person through an agent. You are required to design Use Case and ERD, and then, implement the system using SQL.

The agency has couple of Agents, who assists customers in their queries and transactions. The system will have the Agent details where each Agent has different levels of dealer namely bronze, silver and gold. There are total of twelve Agents where two are assigned in each city and required to enter their login details in order to gain access to the system.

The Agent's level is determined based on the number of bookings, where if an Agent have, equal or more than, 10 bookings, it is categorised as Gold, more than 4, but less then, 10 as Silver, and Bronze otherwise. These Agents give a quote with recommendations to customers to buy or rent; where customers have right to accept/reject them.

The agency has security protocols, such as antivirus and firewall, which are handled by an IT practitioner. There is a technical consultant, who deals with prediction modelling, and they will develop a prediction system in future.

Each branch has a CTO who keeps an eye over the total vehicles sold/rented and loss/gain. Customer cannot directly interact with CTO, the company CEO, resides in London office (HO) and manages the overall profit of the agency.

Queries:

1. Show current price of Sedan in all the Cities **(2 mark)**
2. Show largest of price value from all models associated to London and Manchester **(2 mark)**
3. Show minimum price for London vehicles (from all models) **(2 mark)**
4. Find Agent who has maximum number of timeslots **(3 mark)**
5. Find customer which booked the maximum number of timeslots **(3 mark)**
6. Show all models having price higher than average for model in Birmingham **(3 mark)**
7. Update the price for all models, for London and Manchester, for today, assuming they want to give offer of 80 GBP per vehicle **(5 marks)**
8. Show the maximum price sold from all Gold and Bronze Agents, for all models **(5 marks)**

9. **Trigger:** Create a trigger which places the customers, which have been deleted into a customer table. This allows records to be maintained while improving query times for existing customers. (5 marks)

Integrity Constraints

1. Only Numeric data in price
2. Timeslots cannot be booked in past
3. No numeric numbers in Names
4. Email should have @ symbol for Agents and customers
5. When adding/updating any price; it should not allow us to update the record if the value is not in (min, max) of respective constraint for that model *
6. If the customer email is not given, it should be 'unknow@gmail.com'

* Constraints as given in appendix

Marking Criteria

Designing Part (20)		
Criteria	Factors for good grade	Remarks
Entities AND ERD (10)	<ul style="list-style-type: none"> • Identification of Potential Entities • Identification of Weak Entities • Appropriate Names have been identified for Entities 	<ul style="list-style-type: none"> • ERD diagram • Major entities should be identified (weak entities can be eliminated)
	<ul style="list-style-type: none"> • Using CASE tools for drawing diagram • Diagram corresponds to tables and relationships • Multiplicity and optionality indicated on relationships 	
UML Diagram (5)	<ul style="list-style-type: none"> • Using CASE tools for drawing diagram 	UML Diagram / USE CASES
Tables AND Normalizati on (5)	<ul style="list-style-type: none"> • Identification of necessary Tables • Identification of Primary and foreign keys • Identification of well documented attributes • Identification of constraints to the system • Removal of repeating groups • Removal of functional dependencies • Creation of tables in 3NF 	<ul style="list-style-type: none"> • Entities described as tables with keys (primary/foreign/composite) and attributes • consistency of data in the database by developing integrity and referential integrity constraints

Implementation Part (30)		
Criteria	Factors for good grade	Remarks
Creation of tables in SQL AND Population of tables (10)	<ul style="list-style-type: none"> • Correct use of SQL syntax • Evidence of successful execution • Use of Full range of constraints • A range of data values to test any constraints on attributes 	(e.g. data types, primary key, foreign key, not null, unique and check, where appropriate, etc) At least 10 records in each table
SQL queries (15)	<ul style="list-style-type: none"> • Correct use of SQL syntax • Evidence of successful execution 	
stored procedures and triggers (5)	Correct SQL syntax to perform the defined actions with evidence of successful execution. Partial answers may gain some marks if there is evidence of a reasonable attempt.	SQL syntax correctly used to attempt all queries

Report and Presentation (30)		
Criteria	Factors for good grade	Remarks
Report Reflection (5)	<ul style="list-style-type: none"> • A short essay discussing the principles of databases design and how you apply them to the case study <ul style="list-style-type: none"> ✓ (A well-written, logically coherent) discussion to evaluate the design decisions ✓ recognizing other alternative solutions Justifying choices made 	What other alternatives are available? how can it be deployed in the real world? Design choices etc.
Presentation (20)	<ul style="list-style-type: none"> • Group presentation - presenting the design and implementation of the solution in Oracle. 	10 Mins 5 Mins Q/A
Gantt Chart (5)	<ul style="list-style-type: none"> • Milestones • Group involvement 	TEAM WORK: Documentation stating how each group member participated in the development and completion of the assignment.

Appendix

- $\text{minValue} < \text{Price} < \text{maxValue}$
 $10 < \text{Price} < 100,000$

* Each Vehicle has a minimum value and maximum value (the range is given above)

*Assume there is (at least) one purchase for all properties

Submission

Please upload ONLY 1 file:

A word document with answers to all the assessed tasks (a,b,c,d,e and f). Only one member of the group is required to submit the coursework. The file must be called your studentid.doc (i.e. 1234567.docx or 1234567.doc)

Group Presentation (Design and Implementation): Term-1 Week 11

DEADLINE: Report, Term 1, Week 12 (Dec 15, 2022, 23:59)

PLAGIARISM & COLLUSION

<http://www.uel.ac.uk/aple/academic/avoidingplagiarism/>

FEEDBACK TO STUDENTS

Feedback is central to learning and is provided to students to develop their knowledge, understanding, skills and to help promote learning and facilitate improvement.

- Feedback will be provided as soon as possible after the student has completed the assessment task.
- Feedback will be in relation to the learning outcomes and assessment criteria.
- It will be offered via Turnitin GradeMark and an Audio file where appropriate.

As the feedback (including marks) is provided before Award & Field Board, marks are:

- Provisional
- available for External Examiner scrutiny
- subject to change and approval by the Assessment Board

All students are actively encouraged to collect feedback, review and consider its recommendations and implications, and seek further advice and guidance from academic staff where required.

Agreement of Participation – Group Assignment One CN5000/CD5000

Please complete this agreement and keep a copy for each member of your group. The original of this agreement goes to your Tutor.

We agree to work as a group (**group of 3-4**) to complete the course work for CN5000/CD5000 and understand that the grade awarded will be the grade allocated to us individually as a result of our group work.

Student No.	Name (block letters) and e-Mail Address	Signature

Note: Students should form their groups (group of 3-4) within the SAME Tutorial / Practical.

Tutorial / Practical Number: _____

Tutor's Name: _____

Date of agreement _____ 2022

Assessment Criteria

Deliverable	Grade Band
There is a clear indication in the answer that students have fully understood the problem domain and spent a considerable amount of time iterating over different solutions. All relevant entities, data attribute and relationships have been identified and many-to-many relationships have been eliminated. Documentation is to a professional standard along with complete list of references.	<i>70-100%</i> Excellent
Most of the relevant entities, data attributes and relationships have been identified. Many-to-many relationships have been eliminated. Any assumptions have been justified in the context of the case study and problem domain. Documentation is of a high standard and there is an evidence of iteration and adequate referencing.	<i>60-69%</i> Good to Very Good
About half of the relevant entities, data attributes and relationships have been identified. The standard of documentation is satisfactory. Evidence of iteration will be patchy.	<i>50-59%</i> Satisfactory to Good
Very little or no iteration. Less than half of the relevant entities, data attributes and relationships have been identified. The standard of documentation is generally weak.	<i>40-49%</i> Pass standard to satisfactory
Significant errors and misunderstandings. Entities, data attributes and relationships have not been identified correctly. Level of detail is inappropriate. Documentation is poor. Task not attempted or incomplete or fails to identify the most obvious points.	<i>0-39</i> Fail

Group Presentation – Week 11

 UNIVERSITY OF EAST LONDON
 School of Computing, Architecture and Engineering

Group:

Assessment form for Presentation
CN5000/CD5000 Database Systems Presentation 20%)
Students to fill this information. Examiners will not be liable for any mistakes in student ids.
Group No:
Group Member (Student No):
All students agree to equal distribution of marks? : Yes/No IF No state percentage for each.

The following is a checklist of things that MUST be present in order that this assessment point may go ahead. If any of the items are missing the student is deemed to have FAILED. It is the group's responsibility to have brought the items on the checklist with them.

Item	Present	Not Present
ALL Group Members		
Necessary resources		
All students agreed distribution of marks		

Assessment

Please mark the following criteria. All marks are out of a total of 20.

Clear, concise and all the group members played an active part		2 Marks
ERD and USE Case		4 Marks
Data Dictionary		2 Marks
Normalization and Integrity Constraints		2 Marks
Developed and implemented advanced database solutions using SQL statements in Oracle or Other SQL (Demonstrate : query 8 is compulsory along with any queries totaling 6 marks) E.g Query 8 = 3 marks plus other queries of 2 and 1 mark =6 total		6 Marks
Fully working system		2 Marks
Video link submitted to teams and Project report along with PPT Slides		2 Marks

Overall Mark:
Assessors should show their comments on the back of this form.
Signed:
As Assessors
Date: