

Assignment 2 – Marking Guide For Students
INFO6001 T1 2023

School of SIPS, University of Newcastle, Callaghan, Australia

Marks: out of 150

(Note: if the provided solution EER is not used in assignment 2, zero mark will be given.)

1. Necessary discussion to point out the differences between your submitted EER and the solution EER. (10 marks)
2. Requirement Specification (including data requirements, transaction requirements and business rules), based on the solution EER. (10 marks)
 - * Data Requirements (Rightness, Clarity and completeness)
 - * Transaction Requirements
 - * Business Rules
3. EER Diagram and Data Dictionary, based on the solution EER (15 marks)
 - * EER Diagram
 - * Data Dictionary (Rightness and completeness)
4. The relational model mapped from the solution EER (**i.e., before normalisation**) (70 marks)
 - * Mapping must be done on the solution EER
 - * Mapping of each relation & attributes
 - * Mapping of each relationship
 - * Mapping must be according to the rules stated in the textbook and lectures and adopted by the course.

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Note: some flexibility is accepted, e.g.,

If 2 FKs are needed to refer to 2 similar tables, both following 2 ways are ok

- *use 2 different FKs. E.g.:*
 - *FK MemberIDStudent references StudentMember(MemberID)*
 - *FK MemberIDStaff references StaffMember(MemberID)*
- *use one FK to reference to 2 tables. E.g.,*
 - *FK MemberID references StudentMember(MemberID)*
 - *FK MemberID references StaffMember(MemberID)*

For sup-sub, like Staff-Instore-Driver, both mapping are ok:

- *Keep 3 tables (including Staff, Instore, Driver), but there must be FK in Instore & Driver to refer to Staff.*
- *Keep 2 tables (including InstoreStaff, DriverStaff). In this case, must make sure the FK to other tables are right (E.g., must have 2 FK in StaffPay to refer to InstoreStaff and DriverStaff)*

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* For full marks, make sure to use a foreign key wherever it is needed during mapping, and an action must be defined when specifying referential actions for an FK (e.g., FOREIGN KEY(courseID) REFERENCES Course(courseID) ON UPDATE CASCADE ON DELETE NO ACTION).

5. Normalized Relational Schema in DBDL. Ensure that normalisation steps are shown if any. (40 marks)

- Discussion of functional dependencies, judgement of what normal form that each relation is in, and process of normalising up to BCNF for all relations (e.g., if a relation is in 2nd normal form, give your reason why it is in 2nd form, then show all the process to normalise it up to BCNF).
- At least 2 cases of normalisation process are shown to demonstrate your understanding of normalisation (The example could be from any normal form up to BCNF, e.g., from first normal form up to BCNF, or from third normal form up to BCNF. In case of not being able to identify lower normal form, use of some assumption of functional dependency is acceptable. You need to state that you are making the assumption to demonstrate the normalisation process to avoid the deduction of marks).
- For most of the relations that are already in BCNF and have no need to go through normalisation process, you need to give your reasoning why they are in BCNF.
- **Finally, you need to give a complete list of all the relations that are in BCNF (i.e., all the relations out of the normalisation process).**

NOTE: Do not mix section 4 and 5 together in your answer.

Section 4 is only a complete list of unnormalized relations in DBDL from your EER. Section 5 is the normalisation process and the complete list of Normalised relations in DBDL

6. Report Writing (5 marks)
style, grammar, and make sure all letters and drawings are legible, etc.