

COSC 344

Assignment 1

The assignments for COSC344 are designed to be group assignments, aiming to

- 1) enhance the understanding of database technologies and practice database design through group discussion;
- 2) help you develop teamwork skills.

In this year, 13 teams have been created by **randomly** assigning members to teams. Each team has 3 or 4 members. You can check the team you are in from Blackboard. Each team should have a team leader who is responsible to coordinate the group meetings, allocate tasks, and submit assignment report. The team leaders haven't been appointed yet. Please elect the leader by yourselves. This a good chance to develop leadership skills.

I have enabled several tools in Blackboard for collaboration including file exchange, blog, discussion board, task scheduling, and email within group. Use these tools to collaboratively work on the two assignments. In case there is any discrepancy on the claim of contributions, I will estimate the contributions made by each team member based on these tools. So please label what you have contributed.

To overcome the drawbacks of the traditional group assignment approach, we adopt a new model by combining the merits of both individual assignment and group assignment.

1. The tasks for each assignment should be fairly allocated to the team members. Each member must work on the tasks allocated to him/her independently before attending the group meetings.
2. It might happen that you finish the allocated tasks quickly, and would like to have a try to work on the tasks allocated to other members. **You can do it, but keep it just for yourself.** If a member simply takes what was done by other members, it is an academic misconduct.
3. The assignment report must contain a section named "Teamwork Summary", in which the work done by each member must be clearly stated. If any of you don't agree with the statement in the teamwork summary, you can report to me personally.
4. Members in the same team may receive different grades. For example, a member may receive less marks if he/she didn't complete the allocated tasks in time, didn't attend group meetings, contributed too less, etc.
5. If a member failed to complete the allocated tasks, this will not affect the marks for other members.

Due date for assignment 1

This assignment is worth 10% of your final mark. It is due at **4pm on March 29 (Tuesday)**. Penalty applies for late submissions (10% per working day).

Description of Assignment 1

Select an application domain or mini-world that your team is interested in. It can be a hobby, a personal interest, or something similar. Pick something fun. **The company and orders databases used in lectures and labs are not acceptable.**

There is no need to model everything in the selected mini-world, but you should choose one with proper size so that **each team member can model at least two entity types and at least two relationship types.** In general, the ER diagram should

- have at least one weak entity type;
- have at least one 1:1, 1:N and M:N relationship types. In some cases, you may not have both 1:1 and 1:N relationship types. That is acceptable as long as you have at least one M:N relationship type and at least one either 1:1 or 1:N relationship type;
- include attributes with several data types: integer and/or reals, character strings, etc.;
- have at least one *date* data type;
- have at least one derived attribute, and at least one composite attribute.

Write a description of the mini-world, list the entities and attributes, define the data type for each attribute, describe the relationship, and create the ER diagram. Please follow the structure given in the sample report to work on this assignment. Try to model a miniworld that has a big difference with the provided sample. **If what you modeled is very similar to the sample, you will lose some marks. Please show some novelty in your design.**

The ER diagram must be neat and well organised. Make sure you include the key attribute, cardinality of relationships, participation constraints, etc. If an entity type has multiple key attributes, you just need to show one of them in the ER diagram. You can use any tool (e.g. Dia, draw.io, MS Powerpoint) to create the ER diagram.

Teamwork Model

I suggest to take the following steps to work on this assignment. The dates in square brackets are the suggested due date for each step.

1. The team has a meeting to select the mini-world, determine the entities, relationships to be modelled. The team leader coordinates the allocation of the modelling tasks, and makes sure the task allocation is fair to every team member. [March 9]
Requirements: each member should model at least two entity types together with its associated attributes, and at least two relationships. Each member must participate in each step. It is **not** acceptable that one models entities, one models attributes, one models relationships, and one works on drawing the ER diagram.
2. Each team member works on the assigned tasks independently. [March 16]
3. The team has another meeting to discuss the work done by each member. This is the chance you can get feedback from other team members. If there is any error on modelling, it should be corrected. Make sure all requirements are met. The team leader coordinates the task allocation for writing the assignment report, and make sure the allocation is fair to each member. [March 17]
4. Each member works on the allocated tasks to write report. [March 24]
5. The team works together to merge all sections of the report into one document, and share it with all members for final check. [March 28]
6. The team leader submits the assignment report. [March 29]

Teamwork Summary

At the end of the report you should include a summary of the teamwork, showing whether each member has contributed equally, and which parts have been discussed at meetings, etc. You can add any comment on the teamwork in your team.

Assignment submission

Each group needs to submit just one copy of your assignment report (PDF or Word) via Blackboard. You can find the link to the assignment submission page, named “Assignment submission” in the course menu of the COSC344 paper in Blackboard.