# Database Management Systems Laboratory Experiments Phase 1

**Subject : An implementation of ER Diagram and relational scheme**
**Submission Date : 28.10.2019**
**Due Date : 10.11.2019 - 00:59**
**Advisor :** Res. Assist. (Nebi Yılmaz, Merve Özdeş)

## Introduction / Aim:

The aim of this phase is to understand and implement a Relational Database Model.

## Problem:

This is the first phase of the final project that consists of four phases. In this phase, you are expected to outline the database model based on your project you have chosen from course website[1].

While you are designing your database, be aware your database has:

- more than one weak entity sets.
- more than one **one-to-one**, **exactly-one**, **one-to-many**, and **many-to-many** relations.
- at least one subclass.
- more than one "descriptive attributes"[2] in its relations.
- no redundant attributes in its tables which are particularly used to construct a key.
- evolvable characteristic, which provides adaptability towards the occurrence of conditional changes.

You should carefully define all entity sets-tables and relations among them which are essential in any database model. After determination of entity sets/relations, you should draw *ER model* and *relational scheme* with all the details.

Note that, an entity set has one or more attributes that uniquely identify itself, those are called as*primary*, *foreign*, or *super* key. In your ER model and relational scheme these attributes should be clearly stated.

[1] `http://vtlab.cs.hacettepe.edu.tr/Proje.html`
[2] an attribute that does not belong any entity set but an existing relation.

## Reporting:

Your reports should cover these subjects:

- Project definition.
- Project's main functions.
- The role of all entity sets and relations in the project.

## Grading:

- ER diagram: 50 p.
- Report: 50 p.

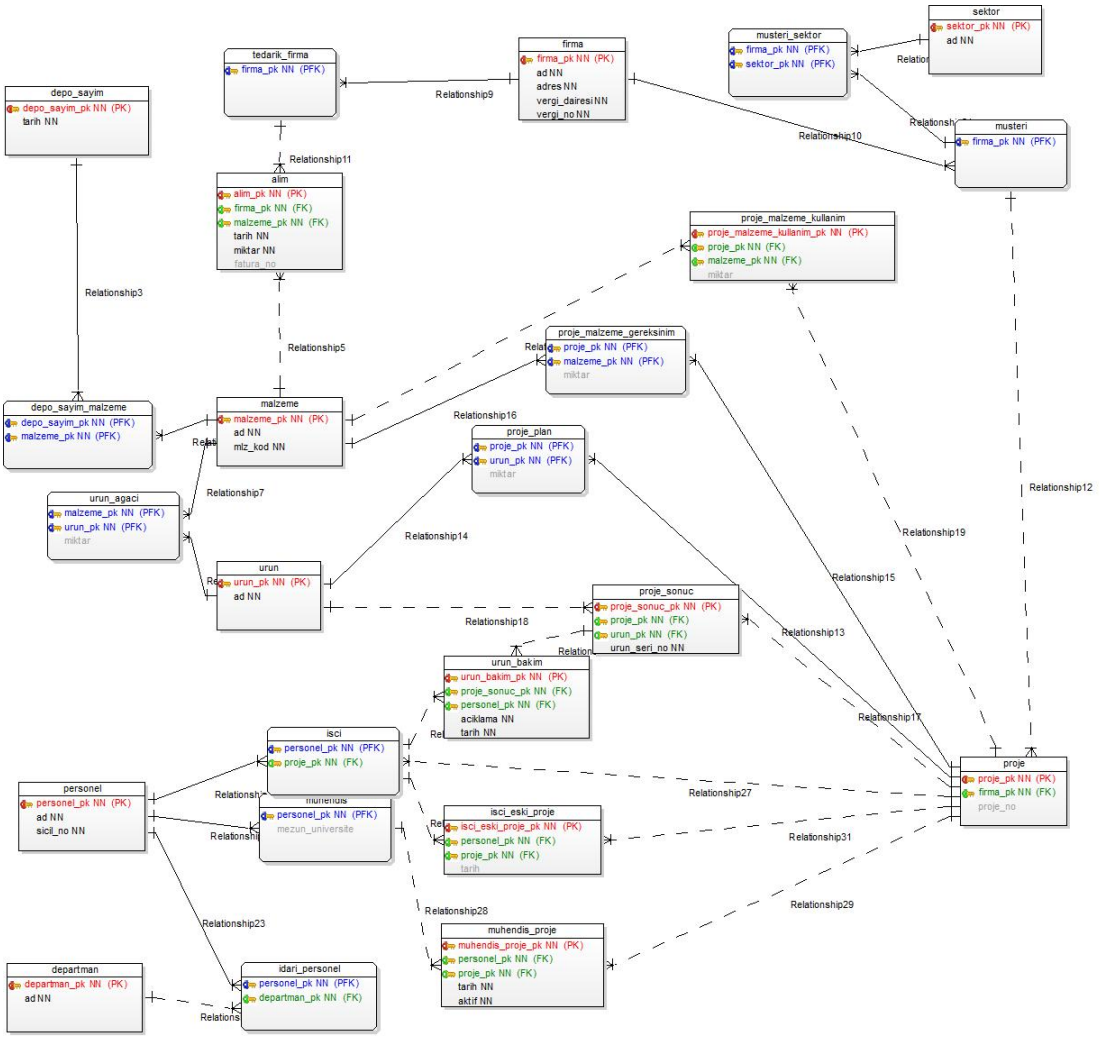
## Submit Format:

→ <student id.zip>
  → diagram /*.png (jpg,jpeg,... etc)
  → scheme /*.png (jpg,jpeg,... etc)
  → report/*.pdf

## Notes

- You tell us your project with your own words and attach your ER Diagram which related to your project.
- Do not miss the deadline. Late submissions will not be accepted
- Save all your work until the assignment is graded.
- The assignment must be original, **group** work. **Duplicate or very similar assignments are both going to be considered as cheating.**
- Your ER Diagram must be included 20-25 entities (tables).
- You can ask your questions via e-mail (*yilmaz,merve*[at]*cs.hacettepe.edu.tr*)
- Report language must be in **English**.
- You will submit your work from `https://submit.cs.hacettepe.edu.tr/index.php` with the file hierarchy as above.
- Submit system will be opened **one student** in each project group. Student who is going to submit will be announced on website later.

## Sample ER Diagram




## Sample relational scheme

Books(<u>book_id</u>,book_name,author_name)