Exercise #11A

Entity Relationship Diagram

Aitrich Technologies Pvt. Ltd.

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# Introduction

This document is a specification for the exercise problems for the topic, ER Diagram. It tests the student's level of knowledge and understanding of the topic.

This document consists of a set of problems that the student needs to solve and submit to the trainer, in the format specified in the Deliverable section of this document.

This exercise is to be performed only after the theory and workshop sessions of the topic; hence the student would have enough knowledge and confidence on the topic. Ideally, the student should be able to solve the problems himself; however, he can seek the assistance of the trainer or lab assistant in case he is stuck with a specific problem.

# Objectives

The objectives of this exercise are to test the student's understanding and knowledge on the topic, and to allow him to re-iterate his understanding by applying that knowledge in a software problem, so that he can use it in the future endeavors.

# Problem: University System

# Draw an ER Diagram for a university system with the help of below listed terms. Identify the entities involved in the system with the proper attributes and relationships and define them properly.

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| --- | --- |
| Term | Example |
| Entity | Employee, Professor, Department, Student, Course ,subject etc. |
| Property (or) Attribute | For example an employee has a name, ID, department etc.;  A professor has name, the subject he teaches, the department he belongs to etc.; A department has a name, number of employees etc; A student has a name, id and class he belongs to; A course has a name, course number etc. |
| Relationship | Registration (connects student and the course entities)  Project ( connects employee and department entities) |
| Regular Entity | Course is a regular entity. |
| Weak Entity | A course has many subjects. Without a course there is no subject. |

# Deliverable

1. The entire ER Diagram could draw in a single in Microsoft Word format.

# Demo

The student should demonstrate the diagram to the instructor on a PC, by explaining each feature one by one.

# Conclusion

The completion of this exercise should re-iterate the student's confidence on Entity Relationship Model and E-R Diagram. Please make sure you have gained enough confidence to move on.