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| **LAB-6 EXERCISES** |
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| Exercises 01 |

Consider a MAIL\_ORDER database in which employees take orders for parts from customers.

The data requirements are summarized as follows:

* The mail order company has employees, each identified by a unique employee number, first and last name, and Zip Code.
* Each customer of the company is identified by a unique customer number, first and last name, and Zip Code.
* Each part sold by the company is identified by a unique part number, a part name, price, and quantity in stock.
* Each order placed by a customer is taken by an employee and is given a unique order number. Each order contains specified quantities of one or more parts. Each order has a date of receipt as well as an expected ship date. The actual ship date is also recorded.

1. Design an entity–relationship diagram for the mail order database.
2. Develop the Logical Model and then **Engineer to Relational Model.**
3. Generate DDL and Save the Design

Exercises 02

Consider the following set of requirements for a UNIVERSITY database that is used to keep track of students’ transcripts.

a) The university keeps track of each student’s name, student number, Social Security number, current address and phone number, permanent address and phone number, birth date, gender, class (freshman, sophomore, ..., graduate), major department, minor department (if any), and degree program (BBA., B.S., ..., Ph.D.). Some user applications need to refer to the city, state, and ZIP Code of the student’s permanent address and to the student’s last name. Both Social Security number and student number have unique values for each student.

b) Each department is described by a name, department code, office number, office phone number, and college. Both name and code have unique values for each department.

c) Each course has a course name, description, and course number, number of semester hours, level, and offering department. The value of the course number is unique for each course.

d) Each section has an instructor, semester, year, course, and section number .The section number distinguishes sections of the same course that are taught during the same semester/year; its values are 1, 2, 3, ..., up to the number of sections taught during each semester.

e) A grade report has a student, section, letter grade, and numeric grade (0, 1, 2, 3, or 4)

1. Design an entity–relationship diagram for university database.
2. Develop the Logical Model and then **Engineer to Relational Model/** **perform forward engineering.**
3. Generate DDL and Save the Design