DATABASE MANAGEMENT SYSTEM LAB MANUAL

KCS 551

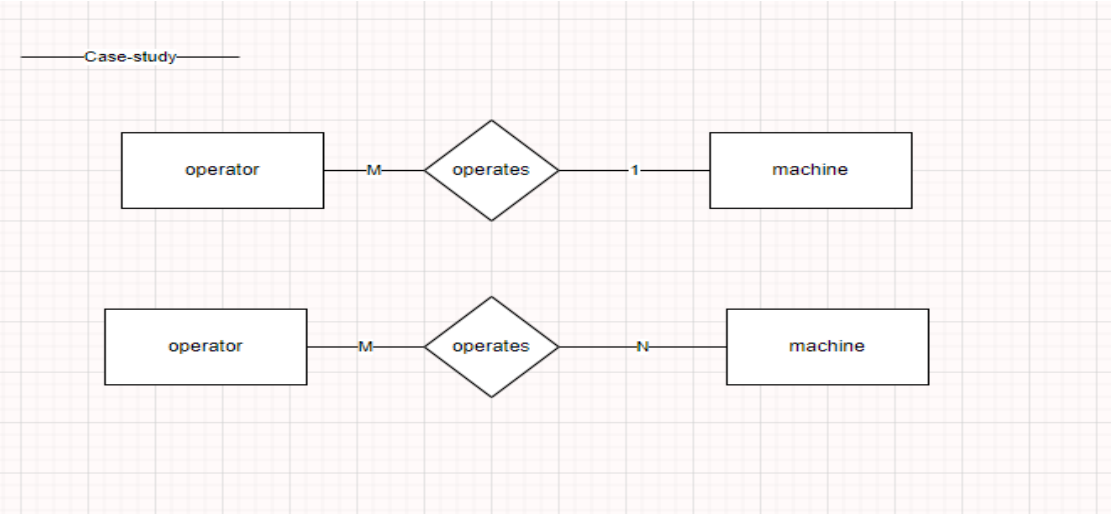
Lab 1 – E R Diagram

Objective: To understand a given case study, notations used for ER Diagram and design the ER Diagram using a tool of following scenarios.

Exercise-1 (Basic Level)

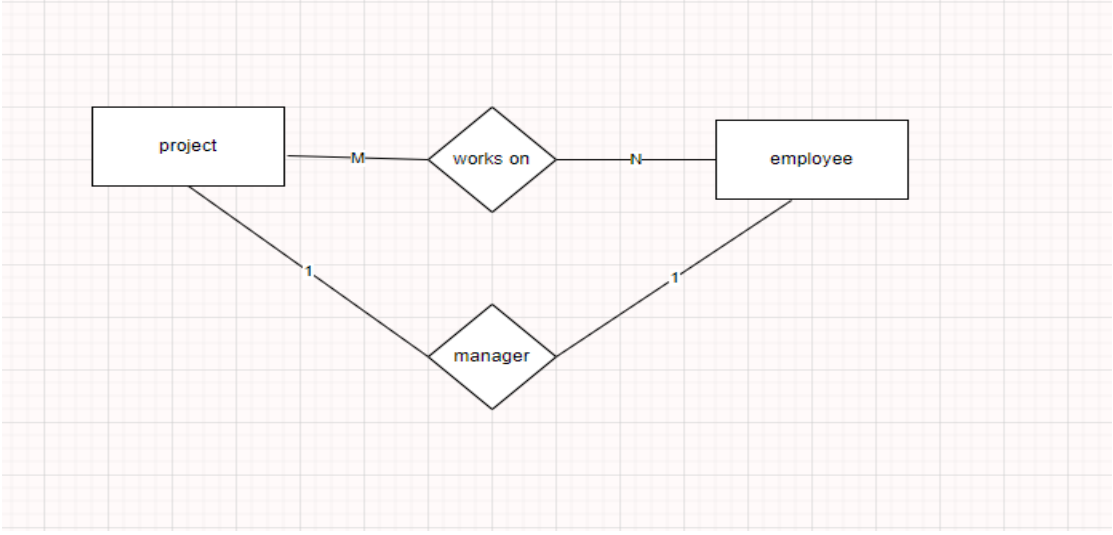
Case Study 1:

Draw E-R diagrams to indicate the following relationships between entity set Operator and entity setMachine: - Each Machine can be operated by many Operators but each Operator can operate only one machine. An operator can operate many machine and each machine can be operated by many Operators.



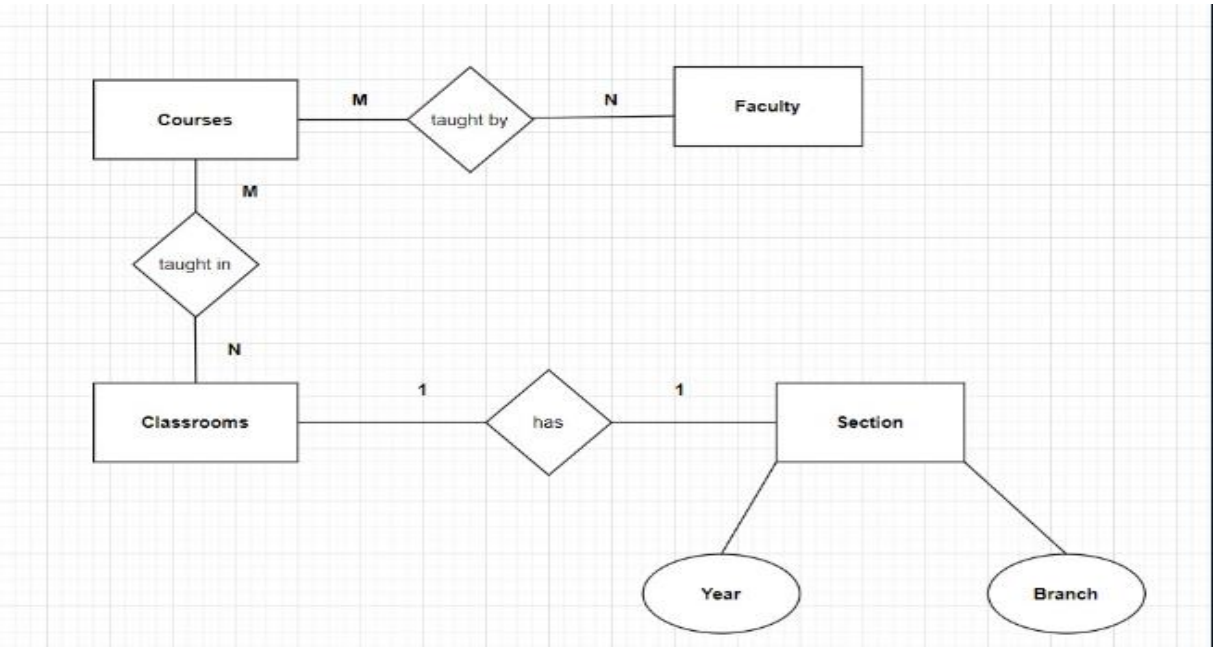
Case Study 2:

An organization having a set of employees to execute a set of projects. Each employee may be working on more than one project, each project is managed by a manager and a manager is also one of the employees.



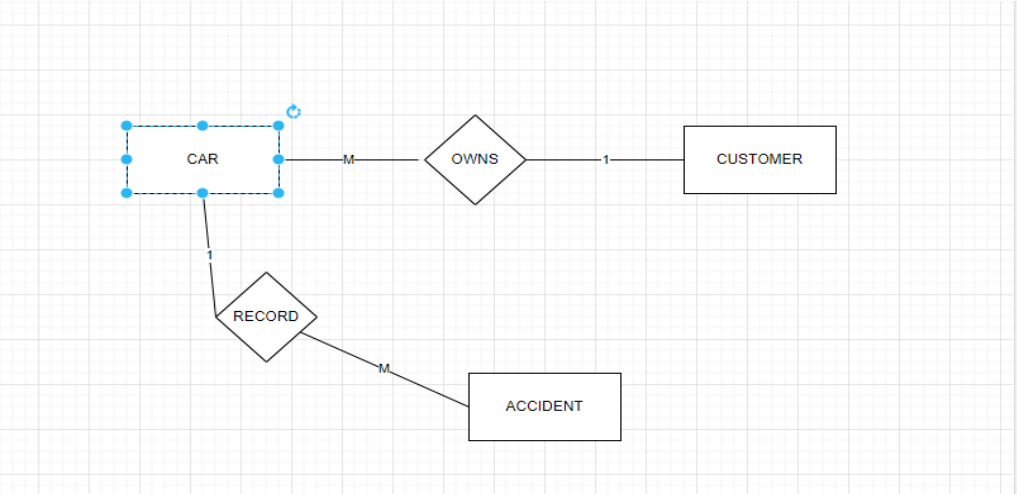
Case Study 3:

Preparation of time table of an Engineering College, catering for a number of Sections (Year/Branch/Section),a number of courses, a number of faculty members teaching the courses and a number of class rooms (ignorelabs).



Case Study 4:

Construct an E-R diagram for a car-insurance company whose customers own one or more cars each. Each car has associated with it zero to any number of recorded accidents.



Case Study 5:

Consider a university database for the scheduling of classrooms for final exams. This database could be modelled as the single entity set exam, with attributes course-name, section-number, room-number, and time. Alternatively, one or more additional entity sets could be defined, along with relationship sets to replace some of the attributes of the exam entity set, as

• Course with attributes name, department, and c-number
• Section with attributes s-number and enrolment, and dependent as a weak entity set on course
• Room with attributes r-number, capacity, and building