

ER Diagrams

Exercise 1: Gallery

Galleries keep information about artists, their names (which are unique), birthplaces, age, and style of art. For each piece of artwork, the artist, the year it was made, its unique title, its type of art (e.g., painting, lithograph, sculpture, photograph), and its price must be stored. Pieces of artwork are also classified into groups of various kinds, for example, portraits, still lifes, works by Picasso, or works of the 19th century; a given piece may belong to more than one group. Each group is identified by a name (like those just given) that describes the group. Finally, galleries keep information about customers. For each customer, galleries keep that person's unique name, address, total amount of dollars spent in the gallery (very important!), and the artists and groups of art that the customer tends to like.

Draw the ER diagram for the database. State any assumptions you make!

Exercise 2: *MAGNUS Inc.*

The *MAGNUS Inc.* IT company has a number of departments (Accounting, Customer Relationships, Software Engineering, etc). (2) Each department has a name, a number, a manager, and a number of other people working for it. (3) The starting date for every department manager should also be registered. (4) A department can have several locations. (5) Every department controls a number of projects. (6) Each project has a unique name, a unique number (both unique only inside the project's department) and a location. (7) For each employee, the following information is kept: name, social security number, address, salary and sex. (8) An employee works for only one department but can work with several projects that can be related to different departments. (9) An employee may also supervise one or more other workers. (10) Information about the number of hours (per week) that an employee works with each project should be stored. (11) To be a manager, one must have worked at least 500 hours on projects. (12) We also want to keep track of the dependents of each employee, for insurance purposes. (13) We want to know each dependent's first name, gender, birth date and relationship to the worker.