



Database System Concepts for Non-Computer Scientist – WiSe 20/21

Alexander van Renen (renen@in.tum.de)

<http://db.in.tum.de/teaching/ws2021/DBSandere/?lang=en>

Sheet 03

Exercise 1

Consider the following description of a hospital and create an entity relationship diagram. Use generalization when appropriate.

- Hospitals consist of departments. Each hospital has an address (which can be used to identify it) and a number of beds. Departments have a name, which is unique only within a hospital.
- Departments in turn consist of rooms which are numbered. Such a number is unique within a department.
- Every hospital employs staff. Employees have a salary. This will determine which salary will be paid. Staff can be employed in various hospitals.
- Staff is identified by a personnel number and can be divided among other things into doctors and nurses. A doctor is associated with a department and can be a supervisor for nurses. A nurse can not be a doctor. However, nurses can have several supervisors.
- A department can be run by several doctors. A doctor can also run several departments. It is also known whether a doctor has a room and if she does, the room number is known. No doctor has to share his office with another doctor.
- Shifts are used to organize work. A shift can be uniquely identified by date and time period. Employees can work in shifts at a department. An employee can only work in one department in a given shift.