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

Solution:

address #beds name

Hospital 1 consists_of N Department 1 contains

M 1 M N

employs works Shift runs number Room

N M N 1

Employee salary date

N id from

is_a is_a to area

Nurse super- Doctor has
vises N

N M 1