

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

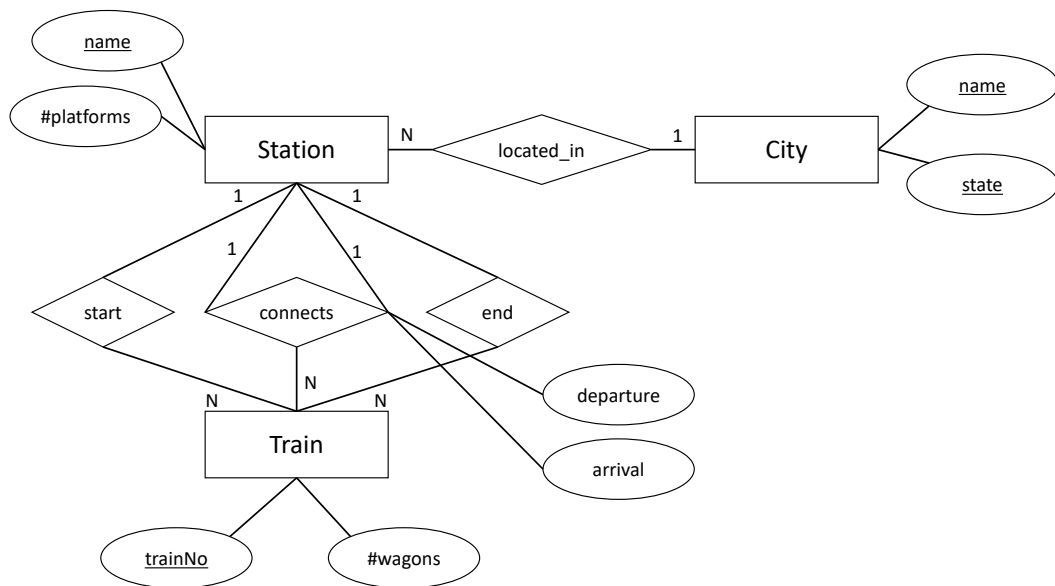
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<http://db.in.tum.de/teaching/ws2021/DBSandere/?lang=en>

Sheet 04

Exercise 1

Consider the entity relationship diagram from exercise sheet 2:



Create a relational schema out of the ER-Diagram. Underline keys and find appropriate data types.

Solution:

The un-refined translation yields the following relations for the entities in the model:

- City : {[name : string, state : string]} (1)
- Station : {[name : string, #platforms : integer]} (2)
- Train : {[trainNo : integer, #wagons : integer]} (3)

For the relationships in the model, we create the following relations:

- located_in : {[stationName : string, cityName : string, cityState : string]} (4)
- start : {[trainNo : integer, stationName : string]} (5)
- end : {[trainNo : integer, stationName : string]} (6)
- connects : {[fromStationName : string, toStationName : string, trainNo : integer, departure : date, arrival : date]} (7)