Exercise 1

Consider the entity relationship diagram from exercise sheet 3:

Refine the relational schema that you created in sheet 3 from the ER-Diagram. Underline keys and find appropriate data types. As a reminder, here is the un-refined schema:

City : {[name : string, state : string]}  
Station : {[name : string, #platforms : integer]}  
Train : {[trainNo : integer, #wagons : integer]}

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

located_in : {[stationName : string, cityName : string, cityState : string]}  
start : {[trainNo : integer, stationName : string]}  
end : {[trainNo : integer, stationName : string]}  
connects : {[fromStationName : string, toStationName : string, 
                            trainNo : integer, departure : date, arrival : date]}
Exercise 2

For additional practice, consider the hospital example, again. This time take the entity relationship diagram and transform it into a relational schema. Then, optimize it by eliminating relations.

This is obviously a large example but practice is very helpful. However, if you want to save time, you could focus on the difficult parts: employs, works, consists_of, Doctors + has