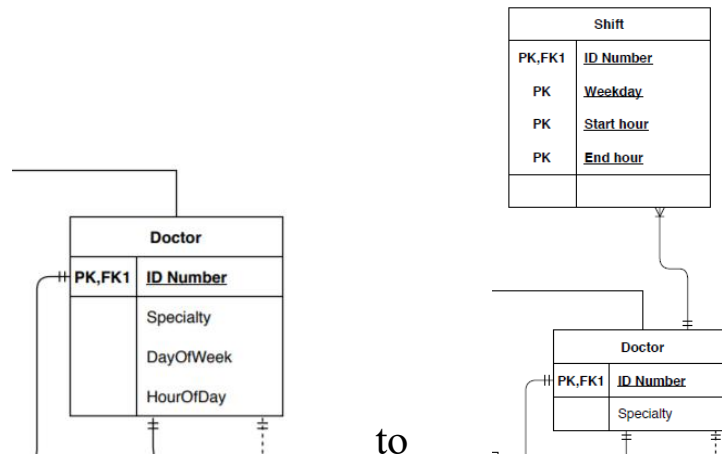


## Description of 3 Relational Databases

For Relational Databases in problem 3, the annotation is here:

1. I use an additional table Shift here because it can better satisfy what our professor wants.

The shift is a schedule but not a simple composite attribute, so the entity set doctor needs to change from



The format of shift table might be:

ID Number	Weekday	Start Hour	End Hour
00001	Monday	9 am	5 pm
00001	Tuesday	11 am	7 pm

All of the attributes here are primary key because a doctor can have more than one period of time working on one day (considering night shift).

2. Between Doctor and Operate, there are two lines, the dashed one is for Operate FK3 Evaluator ID.
3. In our Relational Databases Diagram, we suppose for each surgery, the usage of Prescription is more than one, and we ignore the situation that a patient can only take Prescription without any surgery, because the problem does not mention this information.

Content that are not implemented:

1. The value of ID-number and Name are always known, so the Name attribute of entity Person is not NULL, but the relational database diagram can not show us this information. It needs additional description.
2. The relational database diagram still can not show us that the Specialty of Doctor must match the Specialty of Surgery. It needs additional constraint.
3. Every Patient is admitted by at most one Doctor. This is defined by this problem. But it will not work if a patient goes to the hospital twice and admitted by the same doctor. In our Relational Databases Diagram, we ignore this situation. The designer of the database needs to consider this problem.