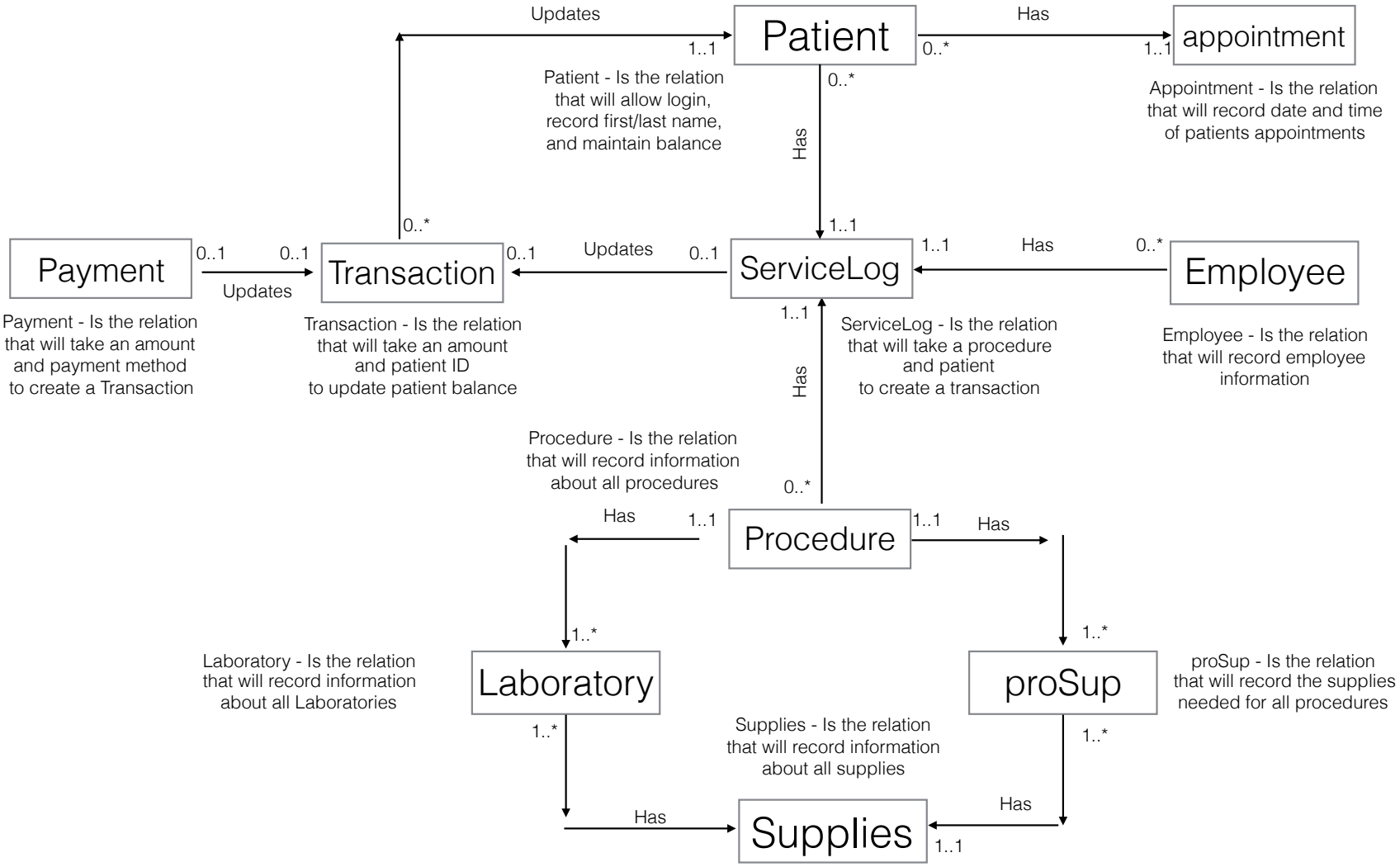
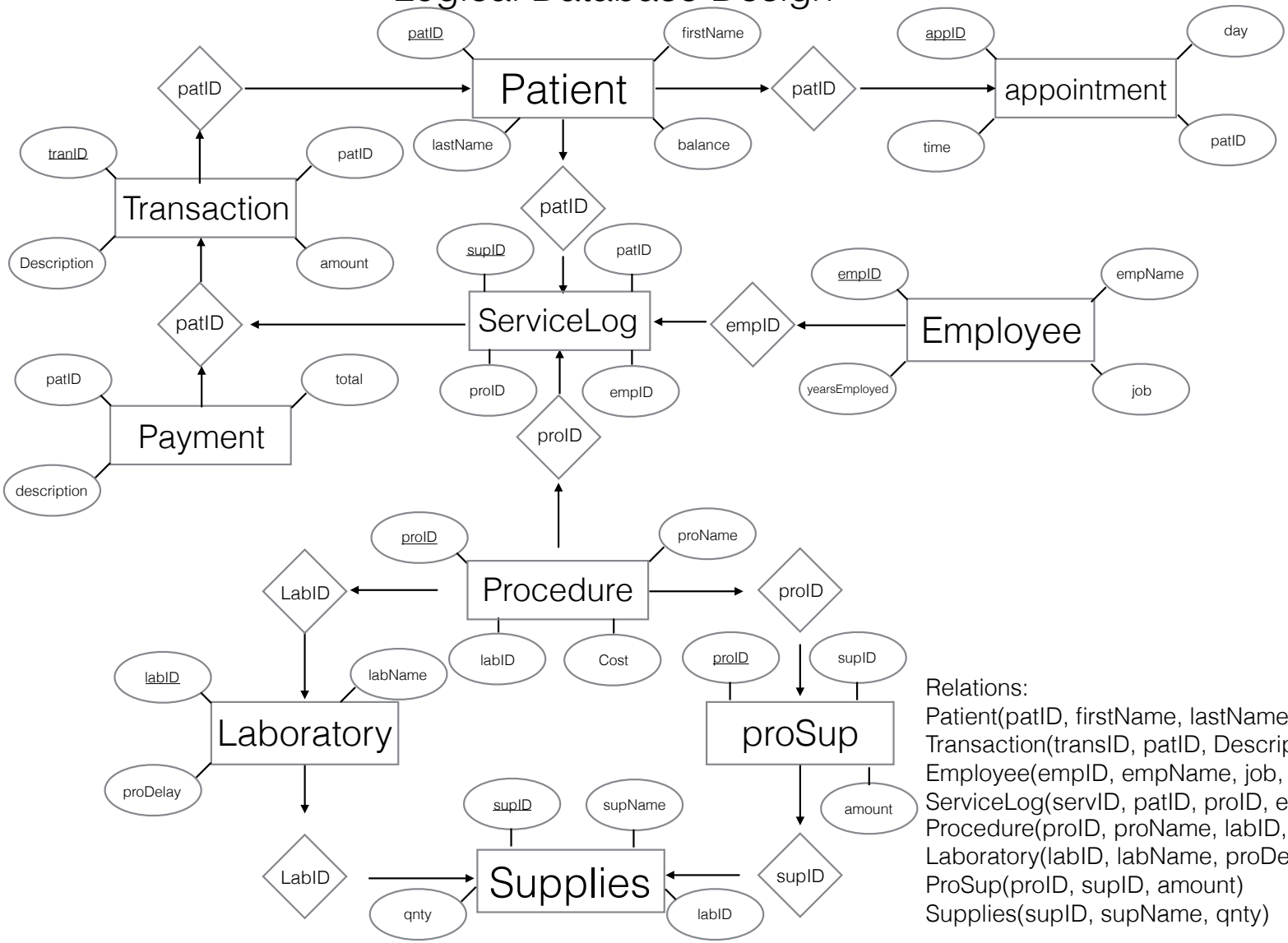
Conceptual Database Design



Logical Database Design



Relations:
Patient(patID, firstName, lastName, balance)
Transaction(transID, patID, Description, amount)
Employee(empID, empName, job, yearsEmployed)
ServiceLog(servID, patID, proID, empID)
Procedure(proID, proName, labID, cost)
Laboratory(labID, labName, proDelay)
ProSup(proID, supID, amount)
Supplies(supID, supName, qnty)

Functional Dependencies

Patient: PatID->(firstName,lastName,balance)
Appointment: appID->(date, time)
Transaction: transID->(date, description, amount)
Employee: empID->(empName,position)
Procedure: proID->(proName, cost, labID)
Laboratory: labID->(labName)
Supplies: supID->(supName, qnty)
proSup: {proID, supID}->(amount)

Our Database Is 3NF Because….

For every functional dependency in every relation in our database X->A X is a superkey because only candidate keys functionally determine other attributes and there are no functional dependencies between non-prime attributes