

Lab Nine: Normalization Three

1) Functional Dependencies

People.person_id -> firstName
People.person_id -> lastName
People.person_id -> age

FlightControlOperators.person_id -> chairPreference
FlightControlOperators.person_id -> drinkPreference
FlightControlOperators.person_id -> hangoverCure

Astronauts.person_id -> yearsFlying
Astronauts.person_id -> golfHandicap
Astronauts.person_id -> spouseName

Engineers.person_id -> highestDegreeEarned
Engineers.person_id -> favoriteVideoGame

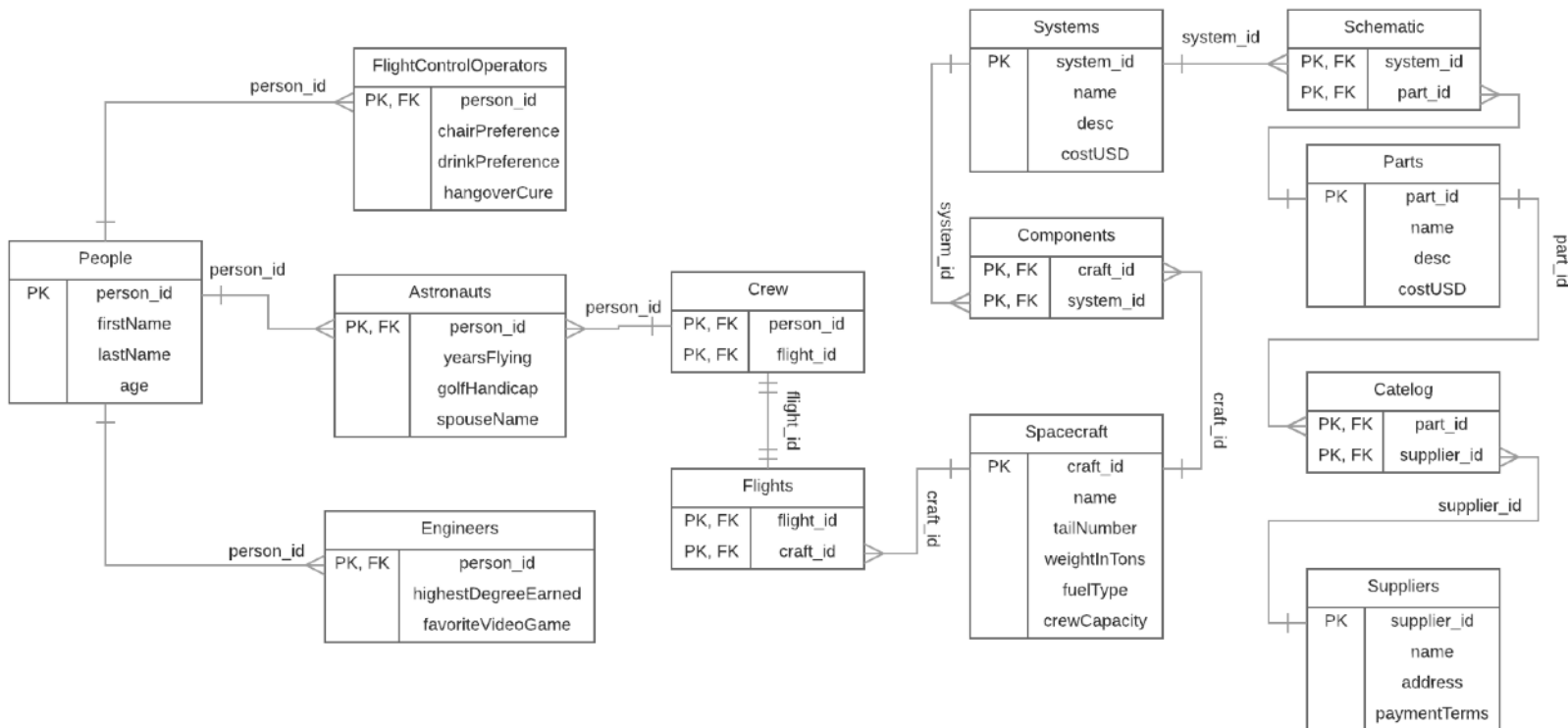
Spacecraft.craft_id -> name
Spacecraft.craft_id -> tailNumber
Spacecraft.craft_id -> weightInTons
Spacecraft.craft_id -> fuelType
Spacecraft.craft_id -> crewCapacity

Systems.system_id -> name
Systems.system_id -> desc
Systems.system_id -> costUSD

Parts.part_id -> name
Parts.part_id -> desc
Parts.part_id -> costUSD

Suppliers.supplier_id -> name
Suppliers.supplier_id -> address
Suppliers.supplier_id -> paymentTerms

2) E-R Diagram



3) Allow me to convince you...

1NF & 2NF: Assuming this system contains data which is atomic (1NF), it is in Second Normal Form as there are no partial dependencies.

3NF: Additionally, it is in Third Normal form because there are no multiple dependencies.

BCNF: I would argue that this system is in BCNF because all keys only rely on their respective primary keys and no other keys within their respective tables.