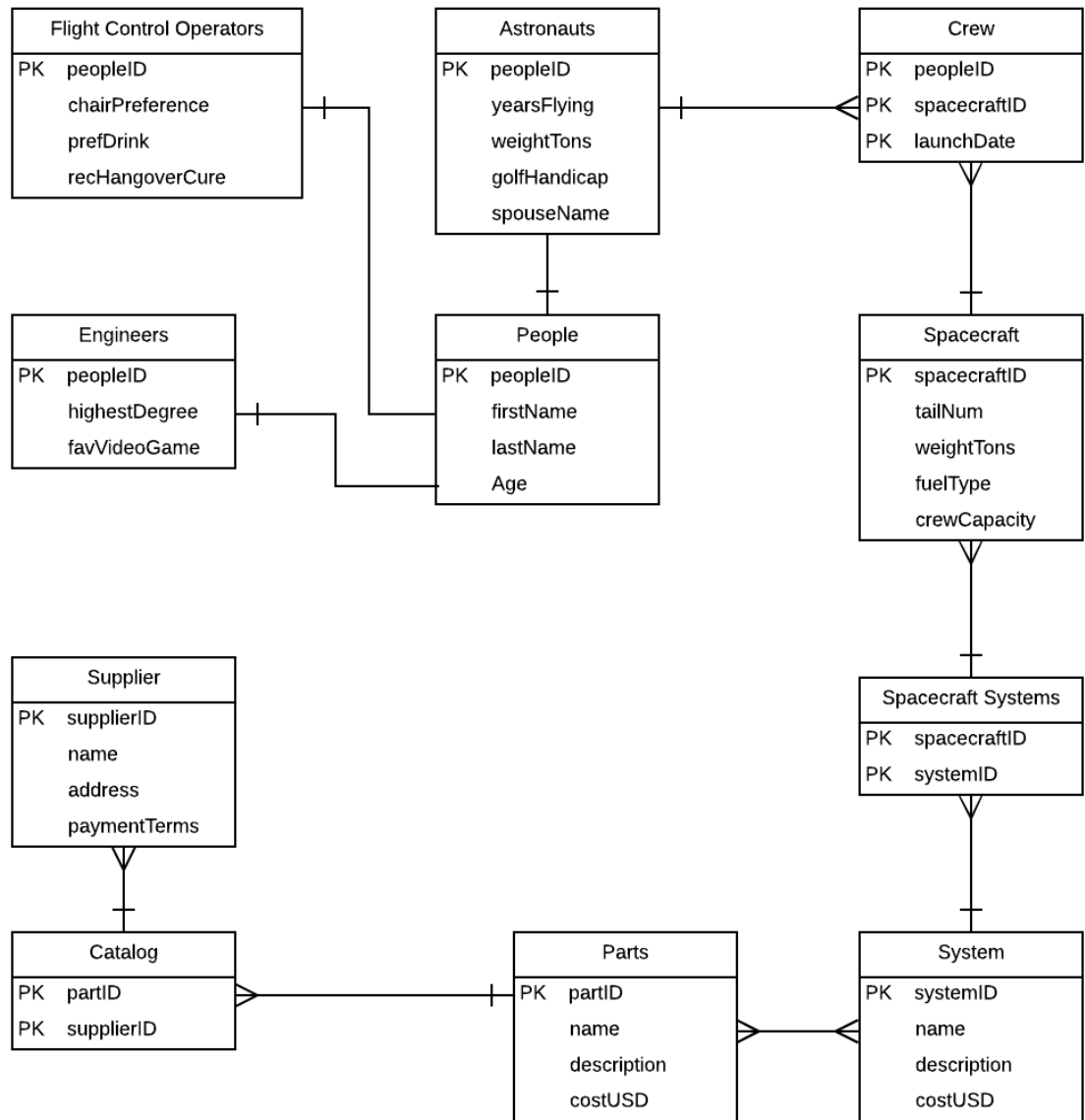Nick DePaul

11/20/17

Lab 9

1) Functional Dependencies:
- Catalog: partID, supplierID
- Supplier: supplierID $\Longrightarrow$ name, address, paymentTerms
- Parts: partsID $\Longrightarrow$ name, description, costUSD
- People: peopleID $\Longrightarrow$ firstName, lastName, age
- Spacecraft Systems: spacecraftID, systemID
- Crew: peopleID, spacecraftID, launchDate
- Spacecraft: spacecraftID $\Longrightarrow$ tailNum, weightTons, fuelType, crewCapacity
- Flight Control Operators: peopleID $\Longrightarrow$ chairPreference, prefDrink, recHangoverCure
- Astronauts: peopleID $\Longrightarrow$ yearsFlying, golfHandicap, spouseName
- Engineers: peopleID $\Longrightarrow$ highestDegree, favVideoGame

2)

Flight Control Operators

PK	peopleID
	chairPreference
	prefDrink
	recHangoverCure

Astronauts

PK	peopleID
	yearsFlying
	weightTons
	golfHandicap
	spouseName

Crew

PK	peopleID
PK	spacecraftID
PK	launchDate

Engineers

PK	peopleID
	highestDegree
	favVideoGame

People

PK	peopleID
	firstName
	lastName
	Age

Spacecraft

PK	spacecraftID
	tailNum
	weightTons
	fuelType
	crewCapacity

Supplier

PK	supplierID
	name
	address
	paymentTerms

Spacecraft Systems

PK	spacecraftID
PK	systemID

Catalog

PK	partID
PK	supplierID

Parts

PK	partID
	name
	description
	costUSD

System

PK	systemID
	name
	description
	costUSD

3) Since the database is clearly in Boyce-Codd Normal Form that would mean that it would also have to be in 1st Normal Form. If the given values in the tables are put through join statements and they cannot be divided which would make them singular. That means it is in 1st Normal Form. There are also no partial dependencies because all of the tables I have made are identified by primary keys. Which means that the database is in 2nd Normal Form. Since there are not transitive dependencies makes this table 3rd Normal Form.