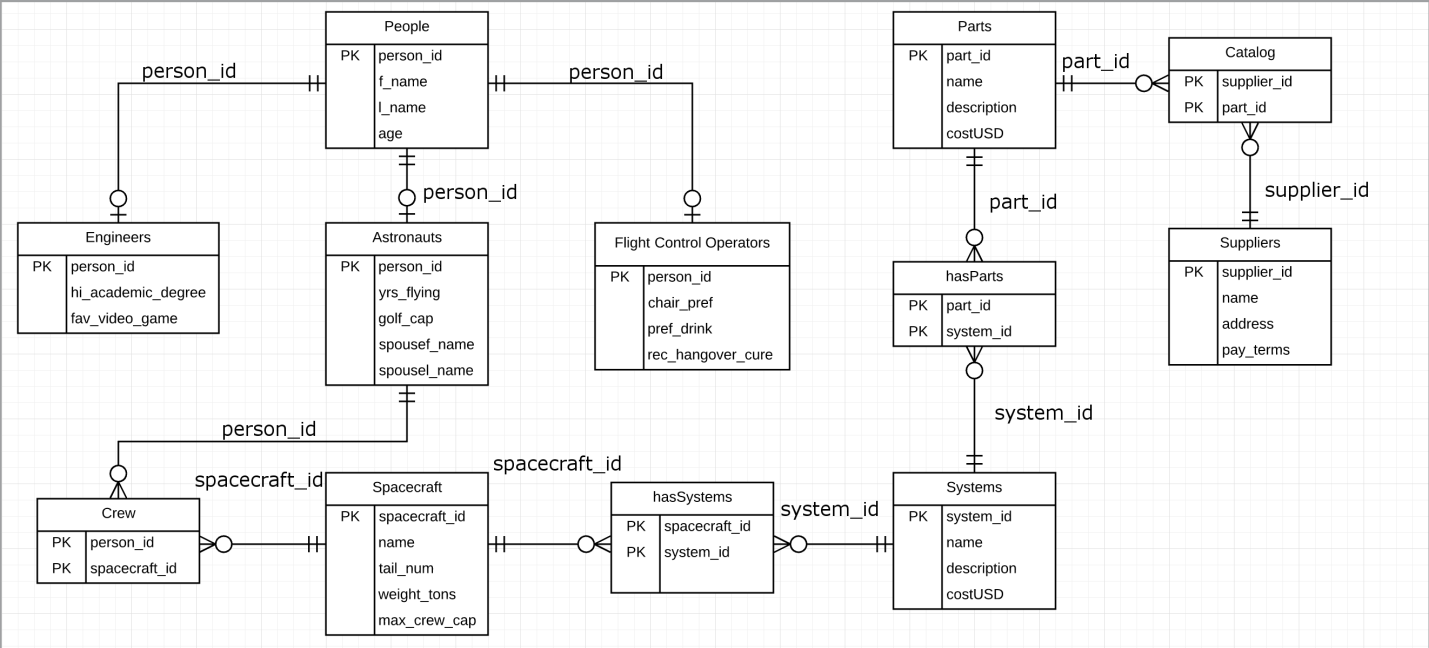
Trevor Pirone

Professor Labouseur

Lab #9

**Normalization #3**

Functional Dependencies

The functional dependencies are as follows:

person\_id 🡪 f\_name, l\_name, age

person\_id 🡪 hi\_academic\_degree, fav\_video\_game

person\_id 🡪 yrs\_flying, golf\_cap, spouse\_name, spousel\_name

person\_id 🡪 chair\_pref, pref\_drink, rec\_hangover\_cure

person\_id, spacecraft\_id 🡪

spacecraft\_id 🡪 name, tail\_num, weight\_tons, max\_crew\_cap

spacecraft\_id, system\_id 🡪

system\_id 🡪 name, description, costUSD

part\_id, system\_id 🡪

part\_id 🡪 name, description, costUSD

supplier\_id, part\_id 🡪

supplier\_id 🡪 name, address, pay\_terms

Boyce-Codd Normal Form

The ER diagram and database is currently in BNF. This is because it is in 1NF and it is atomic. It is in 2NF because it is in 1NF and everything is functionally dependent on the primary key without any repeating groups. It is in 3NF because it is in 2NF and there are no multi-key dependencies. Finally, it is in BNF because it is in 3NF and there are no transitive dependencies. Since the database is in 1NF, 2NF, and 3NF, by this proof, it implies that it must be in BNF.