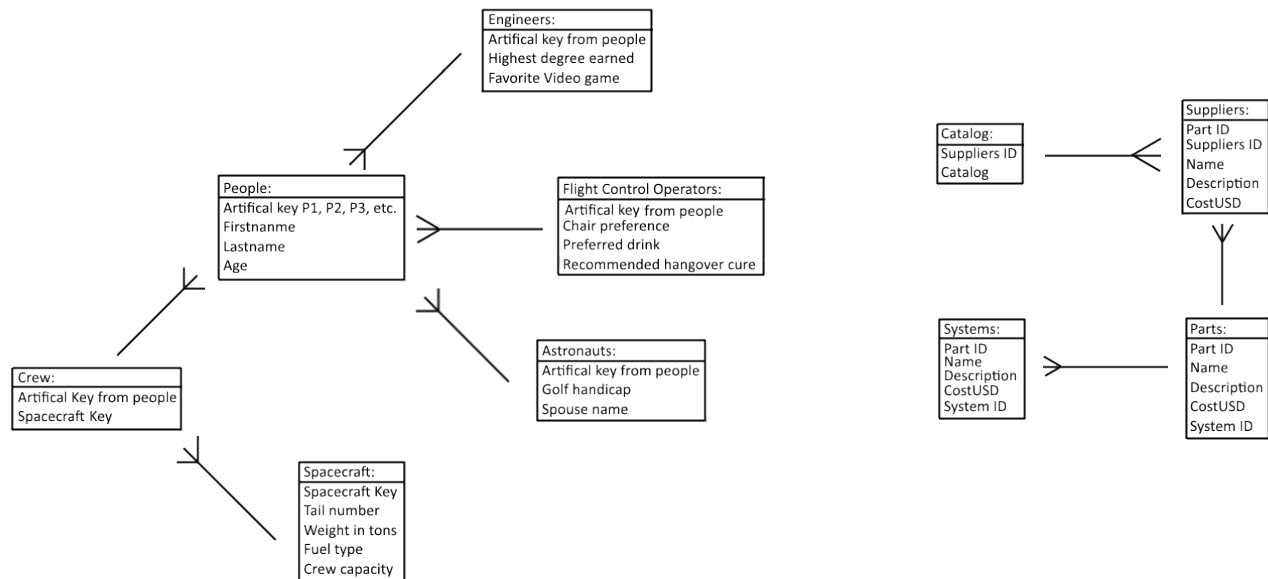Michael O'Rourke
Lab 9

1. Engineers, Astronauts, Flight Control Operators and Crew are dependent on the table People because without any people the job can not be filled. Spacecraft is dependent on Crew because the spacecraft requires a crew to be filled.
Catalog is dependent on suppliers because it requires suppliers to have a function if there is only one supplier the catalog is useless. Suppliers are dependent on Parts because without parts the suppliers have nothing to supply. Systems is dependent on parts because the system requires parts to fill it.

2.

Engineers:
Artifical key from people
Highest degree earned
Favorite Video game

People:
Artifical key P1, P2, P3, etc.
Firstnanme
Lastname
Age

Flight Control Operators:
Artifical key from people
Chair preference
Preferred drink
Recommended hangover cure

Astronauts:
Artifical key from people
Golf handicap
Spouse name

Crew:
Artifical Key from people
Spacecraft Key

Spacecraft:
Spacecraft Key
Tail number
Weight in tons
Fuel type
Crew capacity

Catalog:
Suppliers ID
Catalog

Suppliers:
Part ID
Suppliers ID
Name
Description
CostUSD

Systems:
Part ID
Name
Description
CostUSD
System ID

Parts:
Part ID
Name
Description
CostUSD
System ID

3. This database represents 3NF because it follows both rules 1 and 2; there is no repeating data and there are primary keys in use for each table and there are no partial dependencies between tables. Additionally, all the attributes of a table are linked to the primary key in that table and are dependent on that primary key.
This can additionally be said to be in BCNF because each of the primary keys is a super key in another table. This helps to error check and keep consistency in the database.