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Lab #9

Functional Dependencies

1. People
   PID —> firstName, lastName, age

2. Engineers
   PID —> highestDegree, favVideoGame

3. Astronauts
   PID —> yearsFlying, goldHandicap, spouseName

4. Crew
   SCID —> PID

5. FlightControlOps
   PID —> chairPreference, drinkPreference, recHangoverCure

6. SpaceCrafts
   SCID —> name, tailNum, weightTons, fuelType, crewCap

7. Spacecraft Systems
   SCID —> SystemID

8. Parts
   PartID —>name, desc, costUSD,

9. Suppliers
   SupID —> name, add1, add2, zip, paymentTerms

10. ZIP
   ZIP—> city, state, country

10. Catalog
   PartID —> SupID

11. Systems
   SystemID —> name, desc, costUSD

12. System Parts
   PartID —> SystemID

Database in 3NF

To start, the database is in First Normal Form because all the values located within each table are atomic. This is true even when tables are combined using join statements. There are no partial dependencies that I know off that are present in the database. In other words, all the information with the tables can be uniquely located by the providing primary key. On the other hand, in tables where there are composite keys, the information is determined by both keys combined to produce a specific result.There not being any parietal key dependencies proves that the database is in Second Normal Form. In addition, there aren't any transitive dependencies within each provided table in the database, each individual table can be differentiated by its particular key and nothing but the key (so help us Codd). The lack of transitive dependencies allows this database to be in Third Normal Form.