CS443 - Lab 3

Question 1:

Suppose that our database has the following table.

Person

Con ID	Con Name	Con Pop	Con Size	State code	State Name	State Rgn	State Size	State Pop	Cty Code	Cty Name	Cty Size	Per SSN	Per Name	Per Age	Per DofB	Per Add

Field Explanation:

Con: Stands for Country
Pop: Stands for population
Rgn: Stands for region (like west, east, central, etc.)
Cty: Stands for City
Per: Stands for Person
DofB: Stands for date of birth
Add: Stands for Address

It is assumed that

- Every country in the world has a different country ID
- Every city in the world has a different city code
- Every state in the world has a different state code, and
- Every person in the world has a different SSN
- Every person in the world has only one citizenship and has only one address

Other Assumptions:

- There is no village, county, area, etc. A country consists of several states and each state has several cities

1) **Based on the above assumptions, what do you choose to be the primary key of Person table? Why?**

2) **Explain the anomalies exist in the Person table. Choose only one example of insert anomaly, one example of delete anomaly and one example of update anomaly. Note that update does not mean adding or deleting records. It only refers to modifications of values in some rows of the table.**

3) **Normalize the table; create as many as tables necessary such that all new tables are in third normal form. All the transitive and derived dependencies must be removed.**

4) **Draw your ERD based on fully normalized table (Reverse Engineering).**