# Assignment 4 – Normality

It may seem like normality is “just” an academic exercise. It really is not – it is a way to ensure that data is not duplicated and is in a form that the database can handle efficiently.

For this assignment, you will write a justification of each of your tables – why is it in 1st, 2nd, 3rd and Boyce-Codd normal form. If it wasn’t in a normal form, show how you will fix it. Please submit your discussion of each of your tables and your updated table creation script, if necessary.

An example:

CREATE TABLE city (

cityId int not null identity primary key,

cityName VARCHAR(100),

stated int not null foreign key references State(stated))

Discussion:

There are no repeated values in this table. City name depends on state, but state is referenced through the foreign key. If there were two cities in the same state, only the foreign key id would be duplicated. This table meets first normal form.

In this table, the city name describes the cityId. City name would be unique to the city/state combination, so there is no repetition. This table meets second normal form.

This table meets 3rd normal form, since city name has no transitive dependencies.

The table meets Boyce-Codd Normal form since there are no dependencies.

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| Rubric | Poor | OK | Good | Great |
| 1st normal form | Doesn’t exist (0) | < 50% of tables are justified or fixed (10) | 51-90% of tables are justified or fixed (17) | 91-100% of tables are justified or fixed (25) |
| 2nd normal form | Doesn’t exist (0) | < 50% of tables are justified or fixed (10) | 51-90% of tables are justified or fixed (17) | 91-100% of tables are justified or fixed (25) |
| 3rd normal form | Doesn’t exist (0) | < 50% of tables are justified or fixed (10) | 51-90% of tables are justified or fixed (17) | 91-100% of tables are justified or fixed (25) |
| B-C normal form | Doesn’t exist (0) | < 50% of tables are justified or fixed (10) | 51-90% of tables are justified or fixed (17) | 91-100% of tables are justified or fixed (25) |