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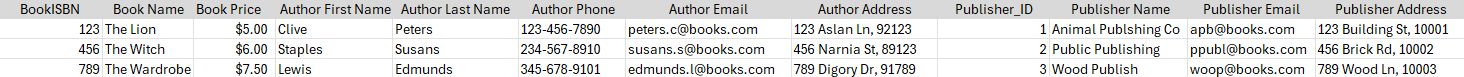
CSD 310

Assignment 3.2

Normalized Tables

**First Normal Form (1NF)**

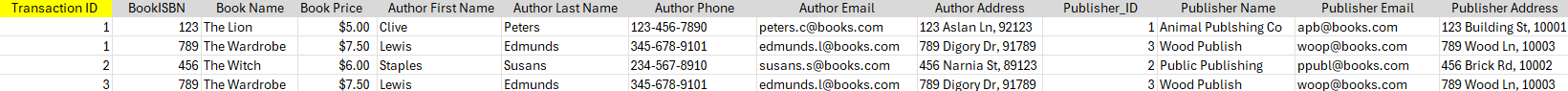
I have created the following table with the provide assignment data fields – in additoin to som fictional/amiguous information.



*Assignment Data Fields*

For the intent of this assignment I decided to add a field for transaction with the assumptions that this information may be used at a book store. Therefore, book would need to be purchased.

In the following example a customer is purchasing the 1st and 3rd book of a stores collection.



*Assignment Data Fields + Transaction*

**Second Normal Form (2NF)**

To ensure the transaction information or Transaction Table meets normal form, quite a bit can be removed to the following:

A screenshot of a book

Description automatically generated

*Transaction Table*

Moving into the Third Normal Form ensuring all the data was not transitive I found the transaction table above can be displayed like the following with a new Book ID field.

Why this is created will be explained in the Third Normal Form Section.

A white paper with black text and numbers

Description automatically generated

**Third Normal Form (3NF)**

There were quite a few assumptions I had with the initial data fields.

1. ISBNs are unique so I thought I can simply use this to inventory the Books
2. I would eventually need to break down the address fields (I quickly realized this would be over-normalization).
3. Publisher IDs are unique so I can also use this to inventory the Publishers books

As I stated earlier we want all the fields to be independent of one another and not transitive, and two additional tables (three in total with the Transaction Table) were created.

It started with the ISBN and Book Names, they are you unique to the books therefore you can find the book by the ISBN and viceversa. The same goes for Publisher Name and Publisher ID. Because I created a Book Table, I created an Author ID since we have several fields of data tied to our authors. To maintain the relationship across parced out tables I added foreign keys. With the new inventory tables the store can share inventory with other stores specific to book, author, and publisher.

A screenshot of a computer

Description automatically generated

*Third Normal Form Fields*

As we are dealing with more data, and I know this is not a large amount. I can already sence how creating these relationships can get complicated.