For a branch, the Branch ID will be the primary key. The branch has a relationship with the staff. A branch needs to have at least one staff. It can also have many. So, minimum cardinality is one and maximum is many i.e. 1..m. Again a staff can work at multiple branches at different shifts. He needs to work at least at a single branch in a single shift. So, the minimum cardinality is one but maximum is many i.e. 1..m. Relationship is many to many and junction table is required which can have its own attributes.

Branches will contain books. A branch can have no copies of a book and also multiple copies of a book. Cardinality is 0..m. Again, the book can be found in a single branch or multiple branch. It can also be out of stock and found in no branch. So, the cardinality is 0..m. Relationship is many to many and hence, a junction table is required.

Every book is published by a single publisher. Here publisher name and city name works as a composite primary key. Book is published by a single publisher. So, it is 1..1. But a publisher has to publish at least 1 book and at best many books. It is 1..m.

Users have primary key as username. They can get zero to many books since a user can just register without taking a single book. So, it is 0..m. A book can belong to no user, which means, it’s not taken. But it can have multiple copies and can this belong to multiple users. So, it is 0..m. Again a staff can publish zero record to many records of the book. So, it is also 0..m. Degree is 3.

The relationship is many to many and junction table is required.

We add new ID, staff ID because I believe using NID as the primary key isn’t a good choice.

I was a bit confused about adding the relational model along with the ERD. In the meeting, someone mentioned asked about attributes in ERD and you explicitly said no. But in the lab task there was a comment, "Only add attributes to the entities if needed." This comment confused me. But since, you asked for ERD, DDL statements and comments only, I believe I don't have to add an extra file showing the relational model which will be constructed using the DDL statements. If I happen to misunderstand this part, then I would like you to give me another chance in the next lab to present the relational model of this lab task.