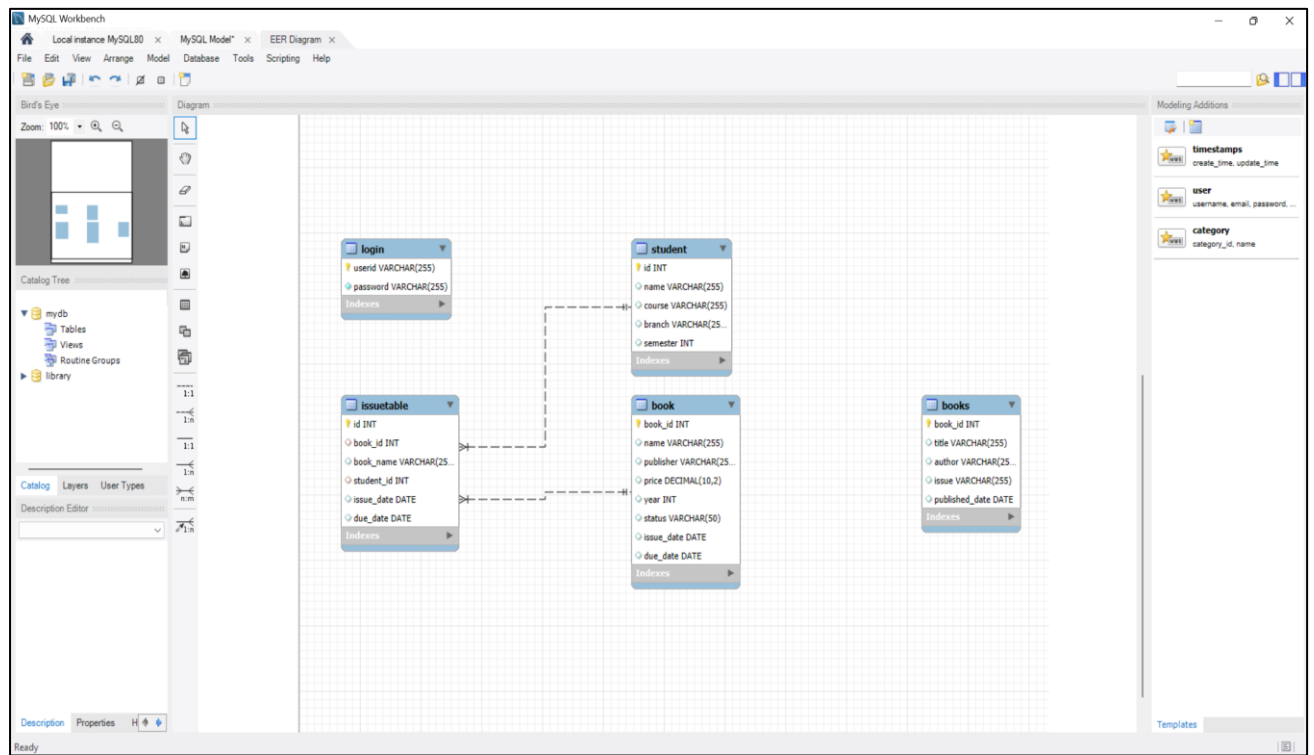
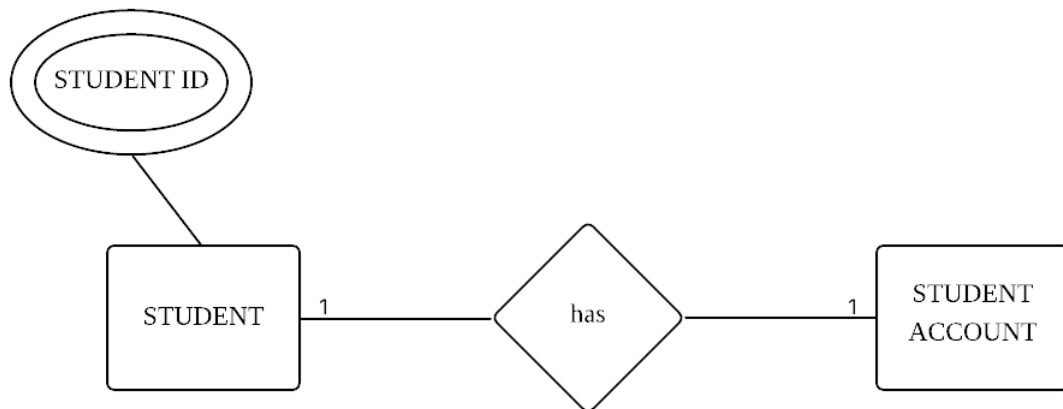


ENTITY-RELATIONSHIP DIAGRAMS

LIBRARY MANAGEMENT SYSTEM

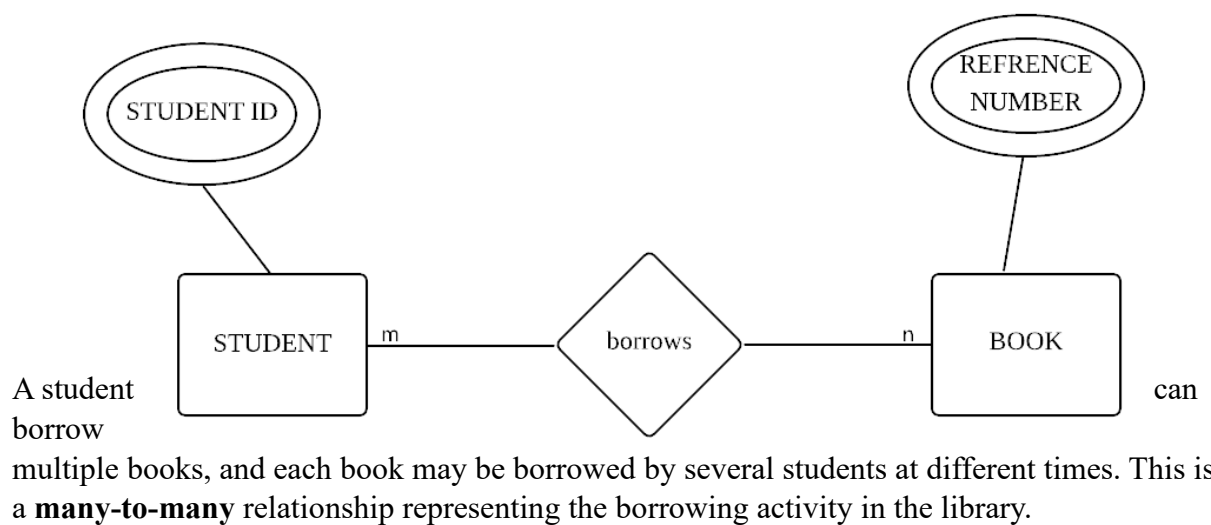


i. Student – has – Student Account:

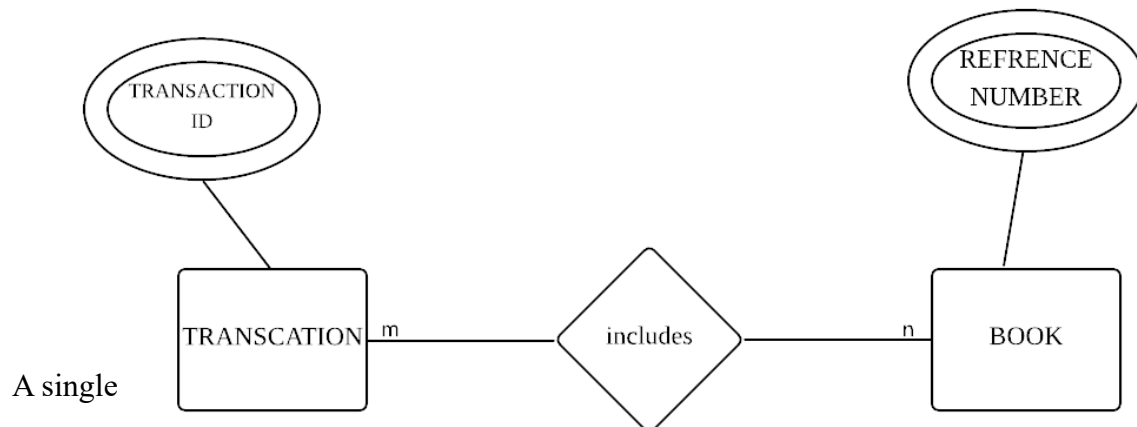


Each student has exactly one student account that holds their personal and borrowing details. This relationship is **one-to-one**, ensuring every student has a unique account.

ii. Student – borrows – Book:

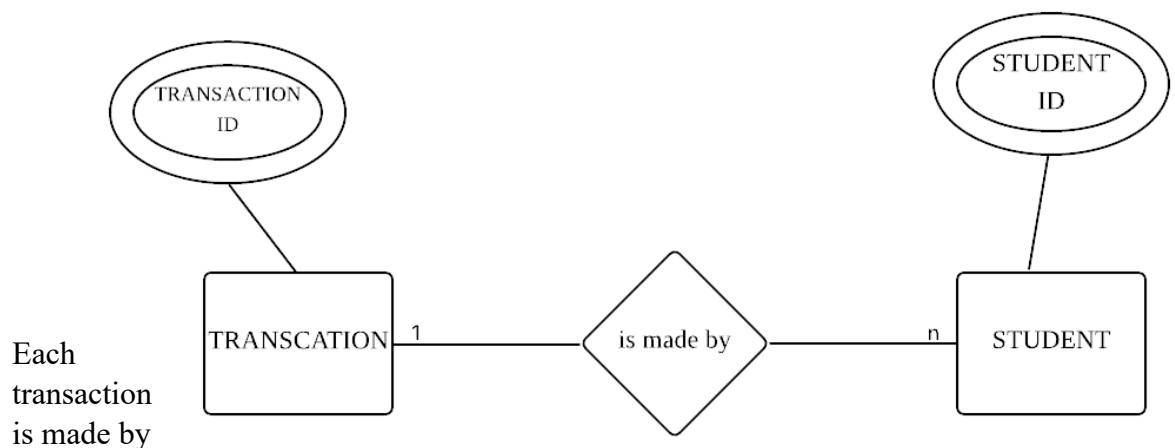


iii. Transaction – includes – Book:



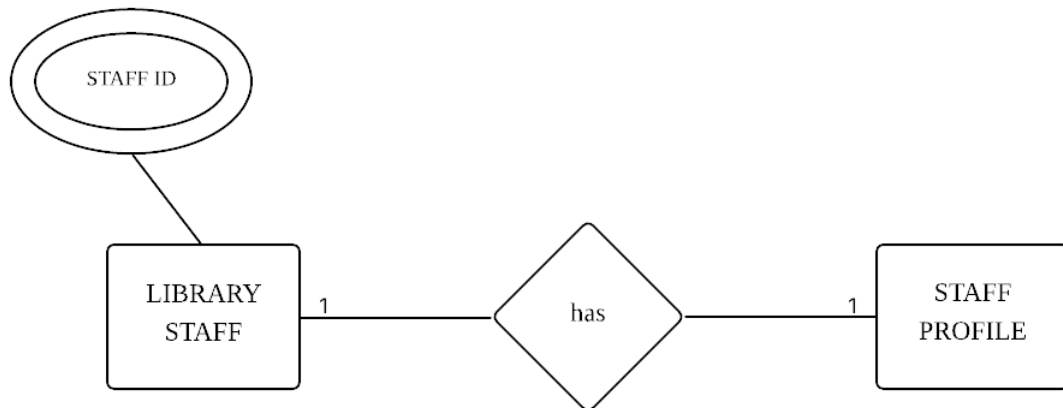
transaction can include one or more books. Similarly, a book can be included in many different transactions, showing a **many-to-many** relationship.

iv. Transaction – is made by – Student:



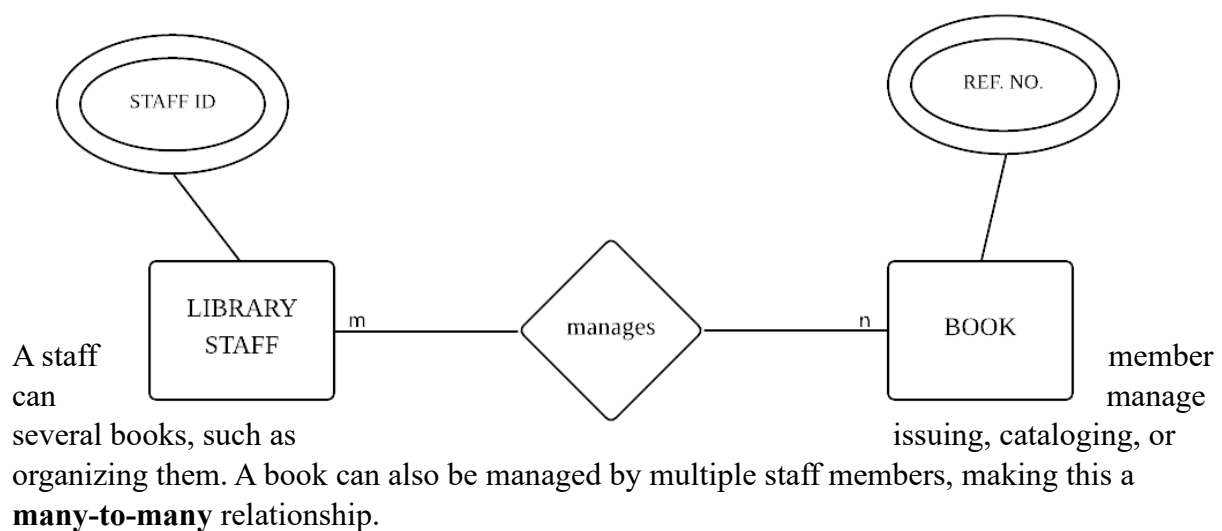
a single student, but a student can perform multiple transactions over time. This is a **one-to-many** relationship from student to transaction.

v. Library Staff – has – Staff Profile:

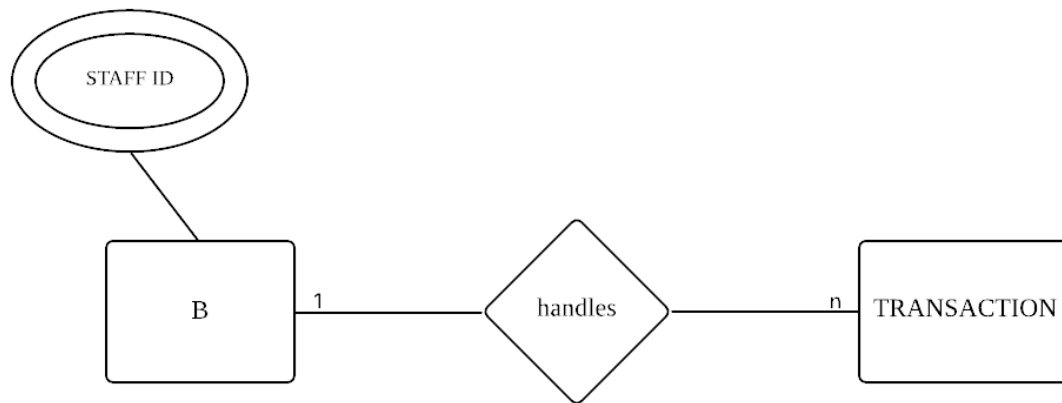


Every library staff member has one unique profile containing their details and responsibilities. This **one-to-one** relationship ensures proper identification of each staff member.

vi. Library Staff – manages – Book:

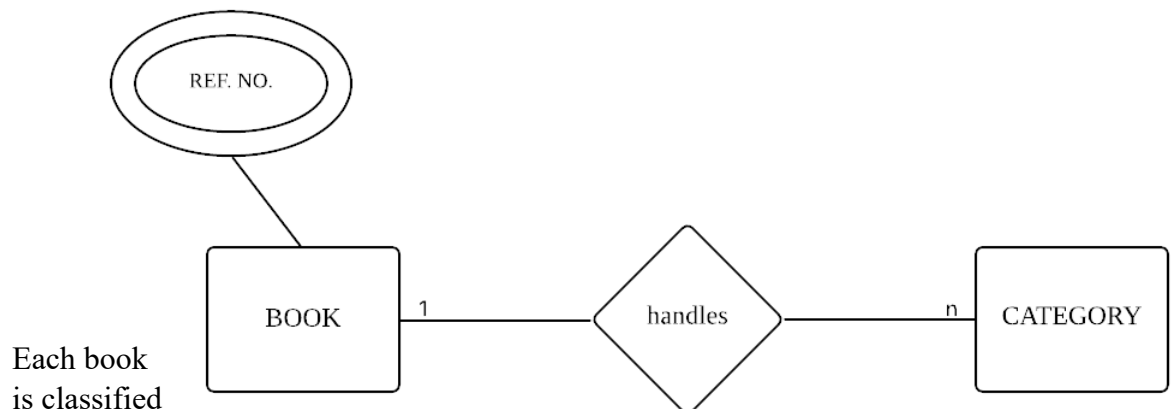


vii. Library Staff – handles – Transaction:



Transactions in the library are handled by staff members. One staff member can handle multiple transactions, creating a **one-to-many** relationship.

viii. Book – belongs to – Category:



Each book is classified into one category such as fiction, reference, or academic. One category can include many books, forming a **one-to-many** relationship from category to book.