

Entity Relationship Diagram

Course Code: CIS231

Module Title: Database Management System

Module Teacher: Nayeema Rahman

What is an Entity?

- A group of objects, people, types, concepts or other items that have the same set of properties (known as attributes).
- Must be of interest to whoever is building the new information system.

Entity Occurrence

A unique instance of an entity

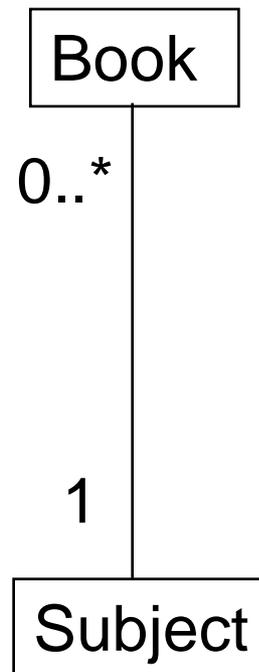
Relationship Types

The meaningful associations between entity types

Multiplicity-1

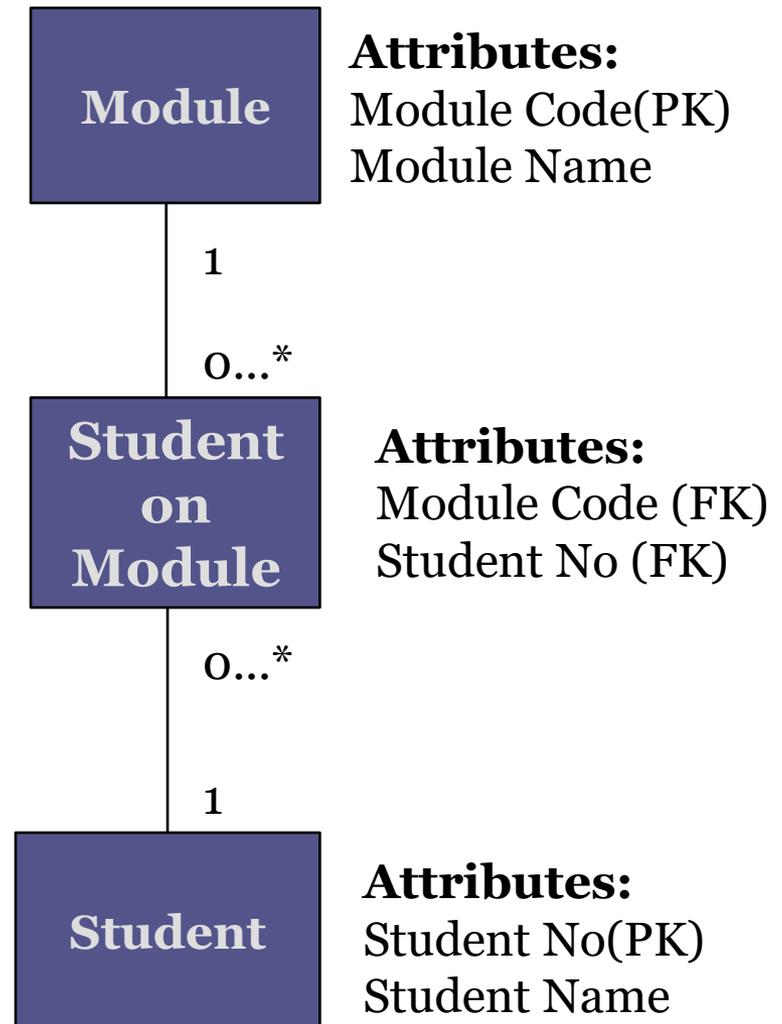
Number or range of possible occurrences of an entity type in relation to another entity type

Multiplicity-2

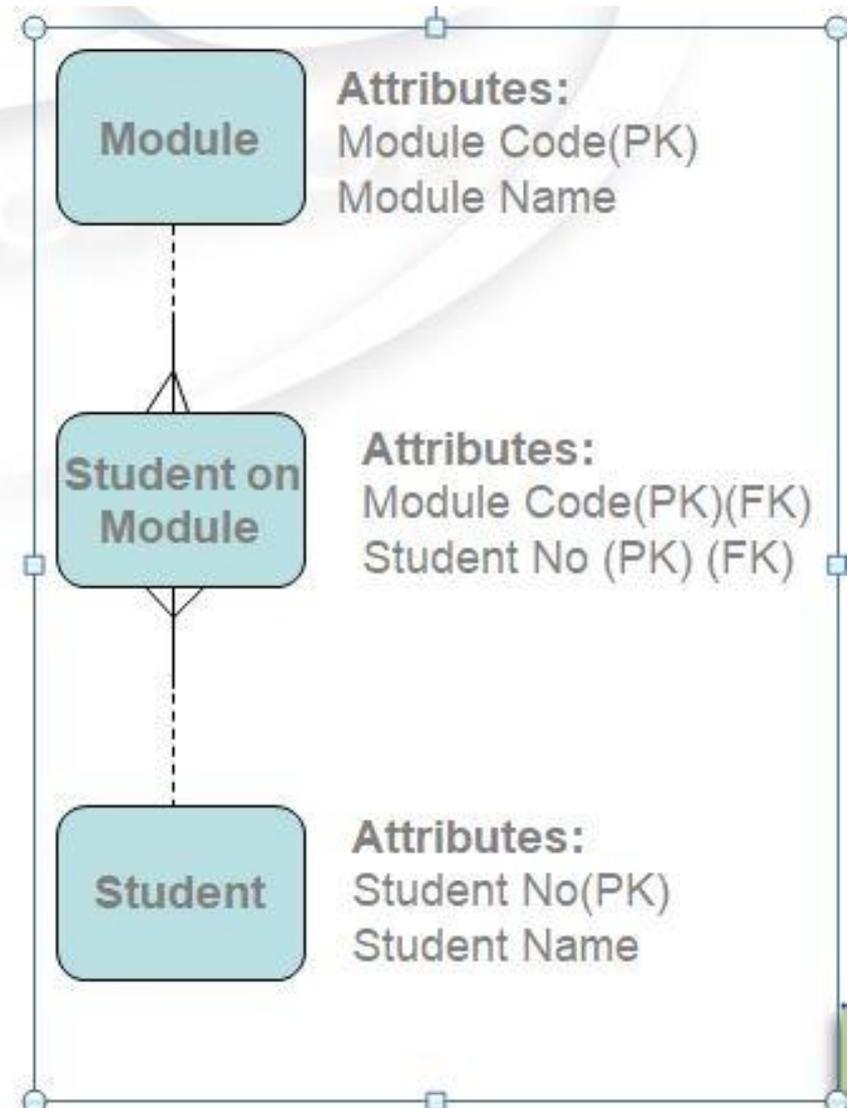


- A Book is Classified by ONE subject. But ONE Subject could classify none or many Books.

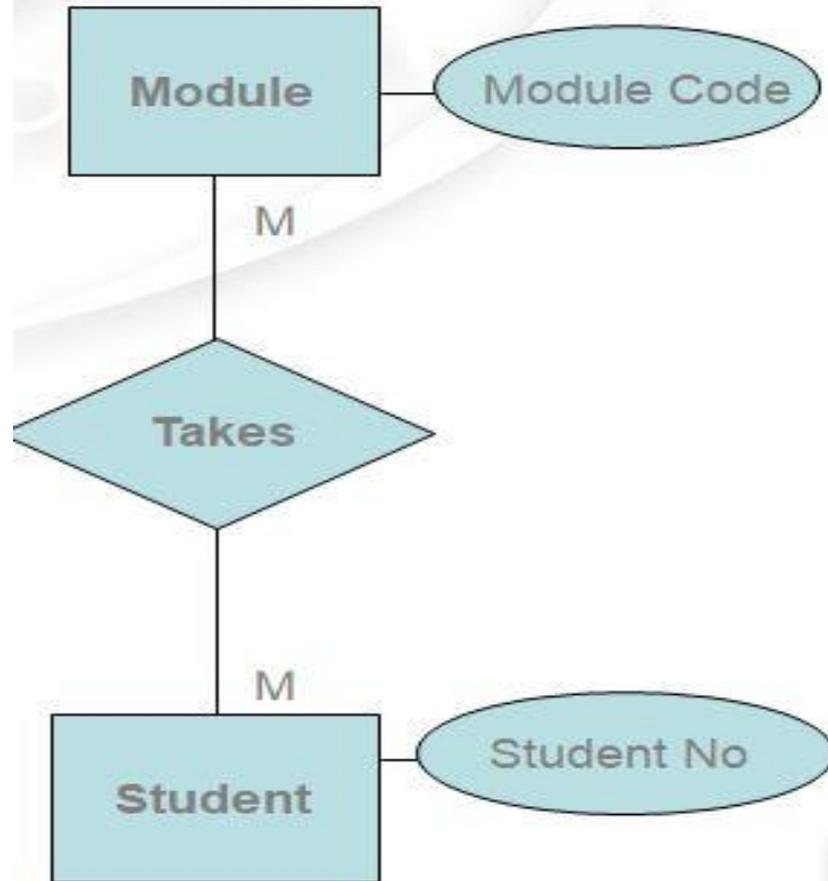
Notations 1 - UML



Notations 2 - CROWS FEET



Notations 3 - CHEN



Activity

- Identify entity types that might exist in a LIBRARY SYSTEM.
- Can you also think of some entity occurrences?

Library System ER

Book

Author

Borrower

Subject

Loan

Occurrences of Entity Types in a Library System

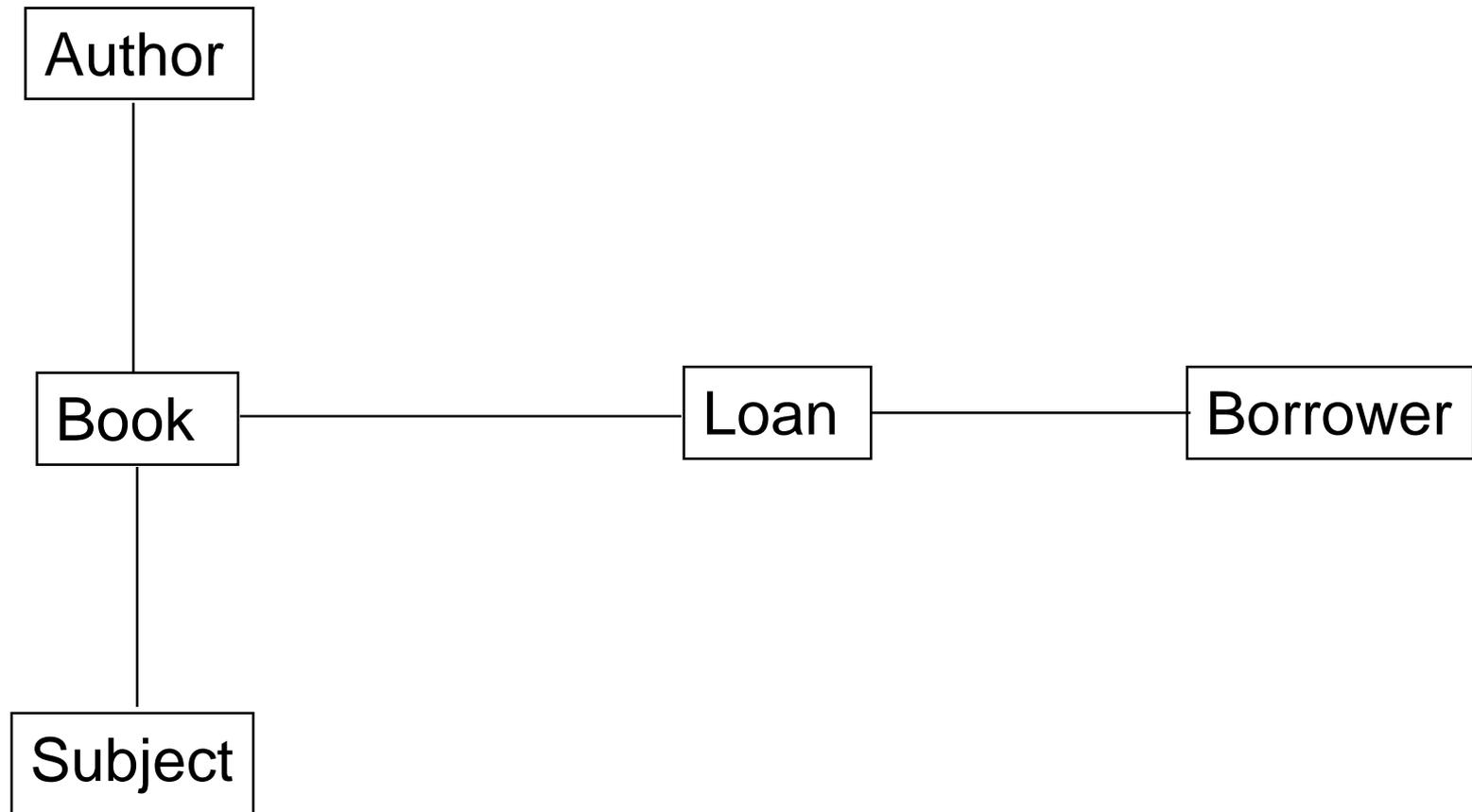
- ***Book:***

- “Lord of the Rings”
- “Introduction to Databases”
- “How to Win friends and Influence people”

- ***Subject:***

- “History”
- “Fiction”

Entity Relationship Diagram



Attributes

A property of an entity type.

Activity

What are the attributes for the entities we identified as part of the library system?:

- ***Book***
- ***Author***
- ***Borrower***
- ***Loan***

Identifying Entities

A student record system is used to allocate students to modules. Each module is part of a course. Each module has one or more assessments attached to it.