

1)

**Student to Grade\_Report:**

- STUDENTs receive GRADE\_REPORTs.

Relationship: One to many by Student\_number.

**Section to Grade\_Report:**

- GRADE\_REPORTs are associated with specific SECTIONs.

Relationship: One to many by Section\_identifier.

**Course to Section:**

- SECTIONs are of specific COURSEs.

Relationship: One to many by Course\_number.

**Course to Prerequisite:**

- Some COURSEs require other COURSEs as PREREQUISITEs.

Relationship: Many to many by Course\_number.

**Prerequisite to Course:**

- Some COURSEs are PREREQUISITEs for other COURSEs.

Relationship: Many to many by Prerequisite\_number.

2)

Entities & Facts/ Limitations

1) Books

- Every book has one and only one ISBN number
- A book can have multiple authors but must have at least one author
- The stock quantity of a book cannot be negative

2) Customers

- A customer is identified by a unique Customer ID
- An email address is unique to each customer and cannot be shared between multiple accounts

3) Orders

- A single order can contain multiple books, but each book entry within that order will have a amount associated with it
- A customer can place multiple orders

4) Authors

- An author can write multiple books, but each book can only be associated with one primary author

5) Reviews

- A customer can write multiple reviews, but only one review per book
- Reviews must have a rating, but a text review can be optional

#### 6) Publishers

- A book is associated with one and only one publisher
- A publisher can publish multiple books

#### 7) Shipping

- Each order has a unique shipping ID once it's shipped
- An order can't have multiple shipping statuses simultaneously

#### 8) Payment Methods

- Payment methods are unique to a customer
- Two Customers have the same card to make payments

#### 9) Genres

- A book can belong to multiple genres

#### 10) Shopping Cart

- A customer can have only one Shopping cart
- A Shopping cart can contain multiple books, but duplicate books will only appear once in on the list.