**2. Entities and Attributes**

SUPPLIER

* Bank\_Account\_Number: simple, single-valued, integer, Key Attribute
* Company\_Name: simple, single-valued, string
* Contact\_Info: simple, single-valued, string

BOOK

* Title: simple, single-valued, string
* ISBN: simple, single-valued, integer, Key Attribute
* Author: composite (FName, Middle\_INIT, LName), single-valued, string
* Price: simple, single-valued, real
* Amount\_In\_Stock: simple, single-valued, integer

ORDER

* Date: simple, single-valued, date
* Time: simple, single-valued, time
* Transaction\_Number: simple, single-valued, integer, Key Attribute

EMPLOYEE

* Name: composite (FName, Middle\_INIT, LName), single-valued, string
* IRD\_Number: simple, single-valued, integer, Key Attribute
* Contact\_Number: simple, single-valued, integer
* Weekly\_Hours: simple, single-valued, real
* Hourly\_Rate: simple, single-valued, real
* Wage: derived, single-valued, real

CUSTOMER

* Delivery\_Address: composite(Street\_Number, Street\_Name, Suburb, City, Postcode), single-valued, string
* Customer\_ID: simple, single-valued, integer, Key Attribute
* Name: composite (FName, LName), single-valued, string
* Phone\_Number: simple, single-valued, integer

QUALIFICATIONS (Weak entity)

* Name: simple, single-valued, string, Weak Key Attribute
* Type: simple, multi-valued, string
* Date\_Received: simple, single-valued, date
* Expiry\_Date: simple, single-valued, date

**3. Relationships**

SUPPLIES

* M: N relationship.
* There are many suppliers on the database of the bookshop, each supplier could supply multiple (types of) books.
* SUPPLIER is total participation; BOOK is total participation.

WORKS\_FOR

* N:1 relationship
* An employee can only work for one bookshop, a bookshop can have many employees working for it.
* EMPLOYEE is total participation; BOOKSHOP is total participation.

SELLS

* M:N relationship.
* Multiple number of employees can sell a multiple number of orders to customers.
* EMPLOYEE has partial participation; ORDER has total participation.

HAS

* 1:N relationship.
* One employee could have multiple qualifications, but not every employee has a qualification.
* Each qualification is identified through identifying the employee first.
* EMPLOYEE has partial participation; QUALIFICATION has total participation.

MAKES

* 1:N relationship.
* One customer can make multiple orders over time.
* Both ORDER and CUSTOMER has total participation.

CONTAINS

* 1:N relationship
* One order can contain multiple number of books.
* BOOK has partial participation; order has total participation in this relationship.