

Kathmandu University
Department of Computer Science and Engineering
Dhulikhel, Kavre



A Report on 'Lab Work 1' [COMP 232]

Submitted by:

Chandan Kumar Mahato (31)

Submitted to:

Dr. Rajani Chulyadyo

Department of Computer Science and Engineering

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Q A publishing company needs to store information about its publications and sales, and has hired you as a database designer.

- The company publishes books as well as magazines. Magazines are published periodically (e.g., weekly, monthly, annually etc.)*
- All orders for books and magazines are placed by distributors, who then distributes the publications to other stores.*
- Distributors may pre-order the publications before they are printed, or order the already printed publications.*
- The company needs to keep track of all the orders and payments.*

Design an ER model for the company. Use any online tool for making an ER diagram.

Explanation

Here,

Entities are:

1. Authors
2. Books
3. Magazines
4. Prints
5. Stocks
6. Distributors
7. Orders
8. Sales
9. Transactions

Out of these 9 entities

4. **Prints** is **weak** entity (because Prints depends on Orders)

7. **Orders** is **weak** entity (because Orders depend on Stocks)

9. **Transactions** is **weak** entity (because Transactions depends on Sales)

Now explaining how all entities are related to each other.

1. There must be **at least one Author** and get payment for **one or many Transactions** and no payment for **no Transaction**.
2. There must be **at least one Distributor** and may have **no sale** or have **one or many sales** and therefore **Transactions respectively**.
3. There may be **no Stock**, or **one Stock** or **many Stock** of Books and Magazines.
4. **Distributor** may have **no Order**, or **one Order** or **many Orders**
5. There may be **no Book** or may be **one or many Books** in stock.
6. There may be **no Magazine** or may be **one or many Magazines** in stock.
7. There may be **no Print** or may be **one or many Prints** depending on stock.

Among Several Attributes, listing **multivalued**, **derived**, **composite** and **optional** attributes.

1. In entity Authors, **Contact** and **Qualification** are **multivalued** attribute and **birth place(O)** is **Optional attribute**.
2. In entity Transactions, **TAX** is **derived** attribute, derived from Total Payment attribute
3. In entity Distributor, **Shop**, **Phone** and **Location** is **multivalued** and **Location** is also **Composite** attribute.
4. In Book Order and Magazine Order relationship set **Discount** is **derived** attribute, derived from Total Amount attribute from Orders entity.
5. **Language** is **multivalued** attribute in entity Books and Magazines.

Thank You