The E-R Model

EXAMPLES

Example #1

Draw the E-R diagram which models an online bookstore.

Step 1 - Identify Entities
- BOOK
- AUTHOR
- PUBLISHER
- WAREHOUSE
- SHOPPING BASKET
- CUSTOMER

Step 2 - Identify Attributes

- **BOOK** – **ISBN**, Title, YOB, Price

- **AUTHOR** – **Aid,** name, address, URL

- **PUBLISHER** – **Pid,** name, address, phone, URL

- **WAREHOUSE** – **Code,** address, phone

- **SHOPPING BASKET** – **Basket_id**

- **CUSTOMER** – name, address**, email,** phone

- **BOOK**

- **AUTHOR**

- **PUBLISHER**

- **WAREHOUSE**

- **SHOPPING BASKET**

- **CUSTOMER**

Step 3 - Identify Relationships

BOOK - AUTHOR : written_by

BOOK – PUBLISHER : published_by

WAREHOUSE – BOOK : stocks

SHOPPING-BASKET – BOOK : contains

CUSTOMER - SHOPPING -BASKET : has_a

- **BOOK**
- **AUTHOR**
- **PUBLISHER**
- **WAREHOUSE**
- **SHOPPING BASKET**
- **CUSTOMER**

Step 4 - Identify Cardinality ratios

BOOK - AUTHOR : written_by : **M:N**

BOOK – PUBLISHER : published_by : **M:N**

WAREHOUSE – BOOK : stocks : M:N

SHOPPING-BASKET – BOOK : contains : M:N

CUSTOMER - SHOPPING -BASKET : has_a : 1: N

Step 5 - Identify Participation constraints (Total V/s Partial)

BOOK - AUTHOR : written_by : **TOTAL - TOTAL**

BOOK – PUBLISHER : published_by : **TOTAL - TOTAL**

WAREHOUSE – BOOK : stocks : **TOTAL - PARTIAL**

SHOPPING-BASKET – BOOK : contains : **TOTAL - PARTIAL**

CUSTOMER - SHOPPING -BASKET : has_a : **TOTAL - TOTAL**