Demonstration of Normalization Process

Q1.Database schema design for the order-entry system:

**Customer Table:**

* Customer Number (Primary Key)
* Balance
* Credit Limit
* Discount
* ShipToAddressID((Primary Key)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Customer**  **number** | **balance** | **Ship to address** | **Credit**  **limit** | **discount** |

**Functional Dependency between the tables**

**Customer number to ship to address**

**Balance to credit limit and discount**

**Credit limit to balance transitive dependency**

**Order Table:**

* Order ID (Primary Key)
* Customer Number (Foreign Key referencing Customer)
* ShipToAddressID (Foreign Key referencing ShipToAddress)
* Order Date
* Quantity Ordered

**Item Table**:

* Item Number (Primary Key)
* Item Description
* Manufacturing Plants
* StockDangerLevel
* Quantity on hand

Q2. (i)Patient (PIDNO, PNAME, FAMDOCNO)

• PIDNO (Primary Key)

• FAMDOCNO (Foreign Key referencing Family Doctor)

• PNAME

(ii)Family Doctor (FAMDOCNO, DOCNAME, DOCADDR)

• FAMDOCNO (Primary Key)

• DOCNAME

• DOCADDR

(iii)Consultant (CONSULTANT-NAME, CONSULTANT-PHONE)

• CONSULTANT-NAME (Primary Key)

• CONSULTANT-PHONE

(iv)Hospital (HOSPITAL, HOSPITAL-ADDR)

• HOSPITAL (Primary Key)

• HOSPITAL-ADDR

(v)Appointment (PIDNO, APPTMT-DATE, APPTMT-TIME, CONSULTANT-NAME, HOSPITAL)

• PIDNO (Foreign Key referencing Patient)

• APPTMT-DATE

• APPTMT-TIME

• CONSULTANT-NAME (Foreign Key referencing Consultant)

• HOSPITAL (Foreign Key referencing Hospital)

3. Third Normal form

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| Customer table | Product table | Order tables |
| 1. Customer number | 1. Product number | 1. Oder number |
| 2. Customer name | 2. quantity | 2. date |
| 1. Customer address | 3.price |  |