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09/23/2020
Professor Lehuta
Assignment 03

ER Diagram to Third

Normal Form

1a. Handle all of the entities -> Customer, Order, Item, City, Storage

Customer (Customer_Name, Phone_Number, Address)

Order (Order_Number, Date)

Item (Item_ID, Color, Size, Description)

City (City_Name, State, HeadQuartersAddr)

Store (Store_ID, Manager, Address)

1b. No strong entities that are subtypes

1c. No weak entities

2a. Handle relationships

No, one-to-one relationships

2b. one-to-many relationships -> Order, Store

Order (Order_Num, Date, Customer_Name†)

Store (Store_ID, Manager, Address, City_Name†)

2c. many-to-many relationships -> ordered in, stored in, hold

ordered in (Item_ID†, Order_Num†, Quantity)

stored in (City_Name†, Item_ID†, Quantity)

hold (Item_ID†, Store_ID†, Quantity)

2d. Relationships of degree > 2

None

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List of foreign keys (_____†)

Order (Order_Num, Date, Customer_Name†)

- Customer_Name† (FK), the home relation is Order

Store (Store_ID, Manager, Address, City_Name†)

- City_Name† (FK), the home relation is Store

ordered_in (Item_ID†, Order_Num†, Quantity)

- Item_ID†, Order_Num† (FKs)

stored_in (City_Name†, Item_ID†, Quantity)

- City_Name†, Item_ID† (FKs)

hold (Item_ID†, Store_ID†, Quantity)

- Item_ID†, Store_ID† (FKs)

Final Schema

Customer (Customer_Name, Phone_Number, Address)

Order (Order_Num, Date, Customer_Name†)

Item (Item_ID, Color, Size, Description)

City (City_Name, State, HeadQuartersAddr)

Store (Store_ID, Manager, Address, City_Name†)

ordered_in (Item_ID†, Order_Num†, Quantity)

stored_in (City_Name†, Item_ID†, Quantity)

hold (Item_ID†, Store_ID†, Quantity)