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CS443

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Lab 1

1) **Just by observing the tables below, what would you choose the primary key of each table? Based on base the explanation of the attributes of the given below, write down all the foreign keys.**

Salesreps

Primary Key:

* **Empl\_Num** is the primary key of the Salesreps table.

Foreign Keys:

* **Rep\_Office** is a foreign key in theSalesrepstable because it refers to the primary key (office) of the Offices table.
* **Manager** is a foreign key in the Salesreps table because it refers to the primary key (Empl\_Num) of the Salesreps table.

Orders

Primary Key:

* **Order\_Num** is the primary key of the Orders Table

Foreign Keys:

* **Cust** is a foreign key in the Orders table because it refers to the primary key (Cust\_num) of the Customers table.
* **Rep** is a foreign key in the Orders table because it refers to the primary key (Empl\_Num) of the Salesreps table.
* **Mfr** & **Product** is a composite foreign key in the Orders table because it refers to the composite primary key (Mfr\_ID) & (Product\_ID) of the Products table.

Products

Primary Key:

* **Mfr\_ID & Product\_ID** is the composite primary key of the Products Table

Customers

Primary Key:

* **Cust\_Num** is the primary key of the Customers table

Foreign Keys:

* **Cust\_rep** is a foreign key in the Customers table because it refers to the primary key (Empl\_Num) of the Salesreps table.

Offices

Primary Key:

* **Office** is the primary key of the Offices table

Foreign Keys:

* **Mgr** is a foreign key in the Offices table because it refers to the primary key (Empl\_Num) of the Salesreps table.

2) **Without looking at the product table, can the “Price” column in the products table be used as the primary key? Why? Why not? What assumption do you need to make for the price to be the primary key? Is your assumption realistic?**

* The “Price” column can be used as a primary key, however the assumption that all prices for each product are uniquely different must be made. This assumption is simply unrealistic as products can have the same exact prices. A good primary key is one that has unique values.

3) **Without looking at the Office table, if you were obligated to use “City” as the primary key of the offices table, what restrictions would you have to put in this column to make it work?**

* To make the “City” column work as a primary key, a composite primary key must be made between “City” column and a new column called “State”. This is due to that fact that there can be multiple offices in a given city and there can be cities in a another state with the exact same name. The restriction that must be placed is that there cannot be multiple entries of an office in the same city in combination with a same state.