Translating E-R model to relational schema

Translating the Strong Entities:

Product(Pid, Price, Image, Product_name, Rating)

Admin(Admin_id, Admin_Login, Admin_Password, Admin_name)

Order(Order_id, Quantity, Total_bill)

Purchase_record(Purchase_id, Purchase_quantity, Price)

Translating the Weak Entities:

Customer(Order_id, Customer_id, Customer_name, Cust_login, Cust_password)

Translating the multivalued Attributes :

Product(Pid, Price, Image, Product_name, Rating)

Product_Category(Pid, Category_id, Category_name)

Admin(Admin_id, Admin_login,Admin_Password, Admin_name)

Order(Order_id, Quantity, Total_bill)

Order_DeliveryAddress(Order_id, Pincode, Phone_number)

Translating to One-to-One Relationship:

None Exists

Translating to One-to-Many/ Many-to-One Relationship:

Order(Order_id, Quantity, Total_bill)

Customer(Order_id, Customer_id, Customer_name, Cust_login, Cust_password)

Product(Pid, Price, Image, Product_name, Rating, Order_id, Customer_id)

Admin(Admin_id, Admin_login, Admin_Password, Admin_name, Order_id)

Translating to Many-to-Many Relationship:

Adds(Pid, Admin_id)

Retrieves(Admin_id,Purchase_id)

Contains(Order_id, Purchase_id)

The Final Schema:

Product(Pid, Price, Image, Product_name, Rating, Order_id, Customer_id)

Admin(Admin_id, Admin_login, Admin_Password, Admin_name, Order_id)

Customer(Order_id, Customer_id, Customer_name, Cust_login, Cust_password)

Order(Order_id, Quantity, Total_bill)

Purchase_record(Purchase_id, Purchase_quantity, Price)

Product_Category(Pid, Category_id, Category_name)

Order_DeliveryAddress(Order_id, Pincode, Phone_number)

Adds(Pid, Admin_id)

Retrieves(Admin_id,Purchase_id)

Contains(Order_id, Purchase_id)

SQL script that creates schema for PostgreSQL

```
-- drop table admin cascade;
-- drop table product cascade;
-- drop table product_category cascade;
-- drop table customer cascade;
-- drop table order_details cascade;
-- drop table purchase_record cascade;
-- drop table order_delivary_address cascade;
-- drop table adds cascade;
-- drop table retreives cascade;
-- drop table contain cascade;


create table order_details(
      orderId varchar(5) not null,
      quantity numeric(2,0),
      total_bill numeric(8,2),
      primary key(orderId)
);

create table customer(
      customer_id varchar(5) not null,
      customer_name varchar(20),
      customer_email varchar(50),
      customer_password varchar(20) not null,
      orderId varchar(5) not null,
      primary key(customer_id),
      foreign key(orderId) references order_details
);



create table admin_details(
      adminId varchar(5) not null,
      admin_email varchar(50),
      admin_password varchar(20),
      admin_name varchar(20),
      orderId varchar(5) not null,
      foreign key(orderId) references order_details,
      primary key(adminId)
);

create table product(
      pid varchar(5) not null,
      price numeric(6,2),
      image varchar(50),
      product_name varchar(20),
      rating numeric(2,1),
      orderId varchar(5) not null,
      customerId varchar(5) not null,
      foreign key(orderId) references order_details,
      foreign key(customerId) references customer,
      primary key(pid)

);

create table product_category(
      pid varchar(5) not null,
      category_id varchar(5) not null,
      category_name varchar(20),
```

```
      primary key (category_id, category_name, pid),
      foreign key (pid) references product
);


create table purchase_record(
      purchaseId varchar(5) not null,
      purchase_quantity numeric(2,0),
      purchase_price numeric(8,2),
      primary key(purchaseId)
);

create table order_delivary_address(
      orderId varchar(5) not null,
      pincode numeric(5,0) not null,
      phone_number numeric(10,0) not null,
      primary key(orderId, pincode, phone_number),
      foreign key (orderId) references order_details
);

create table adds(
      pid varchar(5) not null,
      adminId varchar(5) not null,
      primary key(pid, adminId),
      foreign key(pid) references product,
      foreign key(adminId) references admin_details
);

create table retreives(
      adminId varchar(5) not null,
      purchaseId varchar(5) not null,
      primary key(adminId, purchaseId),
      foreign key(adminId) references admin_details,
      foreign key(purchaseId) references purchase_record
);

create table contain(
      orderId varchar(5) not null,
      purchaseId varchar(5) not null,
      primary key(orderId, purchaseId),
      foreign key(orderId) references order_details,
      foreign key(purchaseId) references purchase_record
);
```