

Entity Definitions

Entities

Sales: Sales will keep track of all of the complete sales in both Diagram 1 and Diagram 2, rather than the individual one item. Sales have an ID, a receipt number, and a register number. They can be discounted by a coupon.

****Purchases** (Diagram 1 **Relationship**) contains the individual items being purchased that come together to make up a full and complete “sale”.

Products: Products have a product name, productID, description, color, size, inventory price, and gender. This is the overall product inventory for all stores, not for each individual store.

Supplier: A supplier supplies stores with products. A supplier can supply multiple products to a store, but each individual product that the supplier supplies can be traced back to the supplier through the supplies relationship in Diagram 1 or through the Stock Order entity of Diagram 2.

Returns:

This entity keeps track of every return, with or without the receipt. It holds a date and reason for return and has relations that allow it access to the price of the return depending on whether the item was returned with or without a receipt. A customer can return one or many products to one store.

Receipt: A receipt is generated whenever a full sale is complete and there is one receipt tied to every sale in the generated relationship.

Payment Method:

Payment is recorded in a receipt. Methods of payment include: voucher, cash, or credit. A customer can use multiple payment methods to pay for the sale in full: i.e. \$20 cash and \$10 on a credit card. The \$20 cash purchase and the \$10 card purchase will show up as two different payment methods with their respective amounts stored as attributes.

Voucher:

(Subclass of payment methods) Received from returning items without a receipt and can be used as in-store credit to pay for new complete sales.

Cash:

(Subclass of payment methods) This entity is utilized when customers pay for their purchases with cash.

Check:

(Subclass of payment methods) This entity is utilized when customers pay for their purchases with a check.

Credit Card:

(Subclass of payment methods) This entity is utilized when customers pay for their purchases with a credit card.

Store:

A store entity contains a store number, store address, phone number, and tax rate. In Diagram 1, the store is related to the sales associates that work there, the suppliers who supply the store products, the purchases made at the store, and the returns with receipts returned to that store. In Diagram 2, the Store entity is related to sales associates, sales, returns, and their own individual per-store stock/inventory.

Coupon:

Coupons are sent to customers by mail or email. Customers can be given none or many. Coupons can be applied to any one individual item at a time. They cannot be applied to complete and full “sales,” only individual items.

Customer:

Customers can receive coupons and create sales. Customer entities contain a customer name, an address, a country, a phone, and an email.

Sales Associates:

Sales associates are specific to one store and each associate is supervised by a higher tier sales associate manager. Sales associates are attached to each sale that they have helped with. Only one sales associate may be attached to one sale.

Sent:

(Diagram 2) This associative entity contains the type of each coupon, along with the date that coupon was sent to a customer.

Return Without Receipt:

(Diagram 2) This entity inherits from the Return entity and was created to handle the case when a customer returns a product without a receipt. In such an occurrence, a voucher with a voucher number must be created and the products returned must be added back into the overall product inventory.

Stock Order

(Diagram 2) This entity contains a shipment of products that has a relationship allowing an individual store’s product inventory to be viewed. The products that were shipped in the stock order will add to the overall company’s product inventory when a store gets a shipment.

Purchase

(Diagram 2) Purchase is an associative entity created to keep track of individual items being purchased that add up to a full and complete “sale”. These purchases will decrement the overall product inventory count one item or “purchase” at a time. A product can be purchased 0 or many times, but a purchase can only include one type of product i.e. a specific model of Adidas shoes, though it may contain multiples of that one item as specified with the quantity attribute. A sale can include many purchases, but an individual one type of item purchase can only show up on a sale once.

Diagram 1

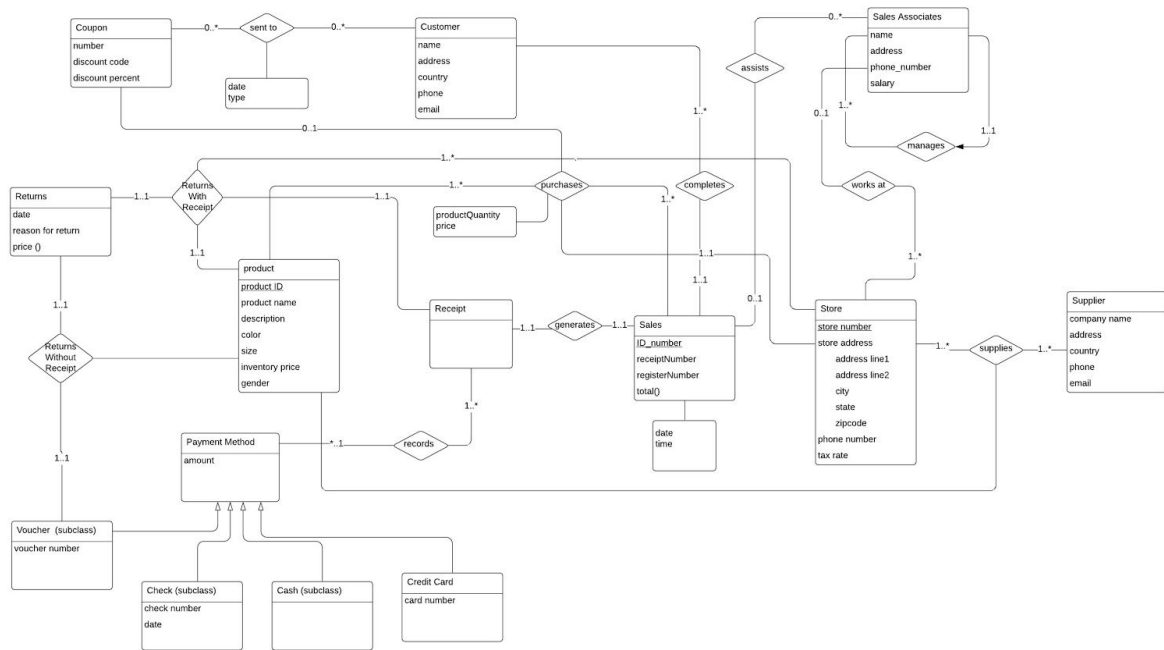


Diagram 2

