



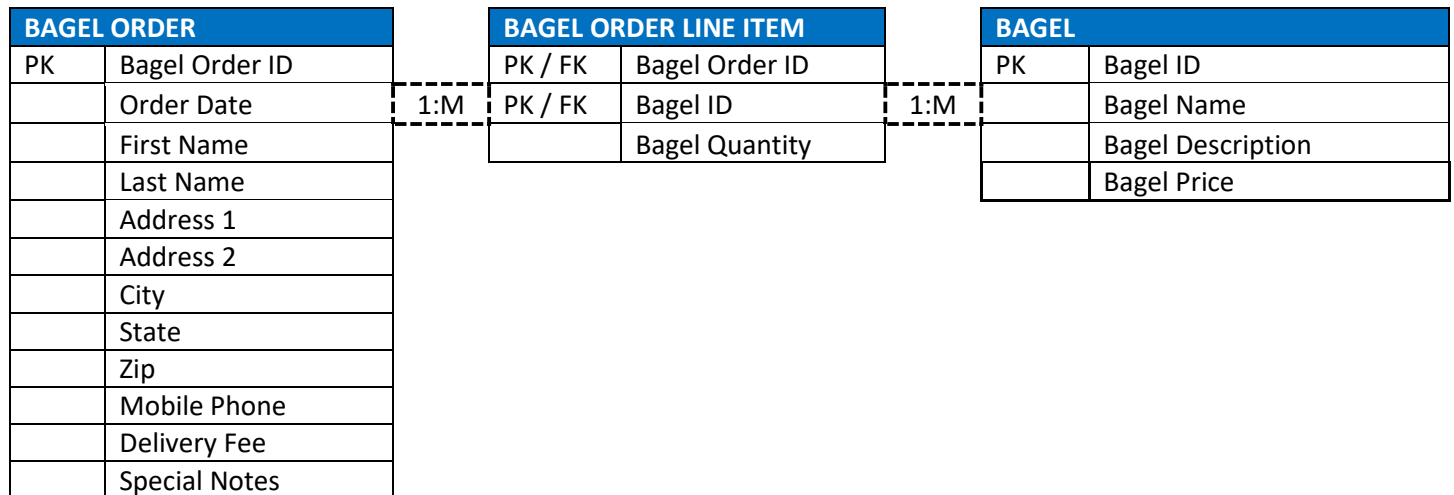
# Nora’s Bagel Bin Database Blueprints

## First Normal Form (1NF)

BAGEL ORDER	
PK	Bagel Order ID
PK	Bagel ID
	Order Date
	First Name
	Last Name
	Address 1
	Address 2
	City
	State
	Zip
	Mobile Phone
	Delivery Fee
	Bagel Name
	Bagel Description
	Bagel Price
	Bagel Quantity
	Special Notes

# Nora's Bagel Bin Database Blueprints *(continued)*

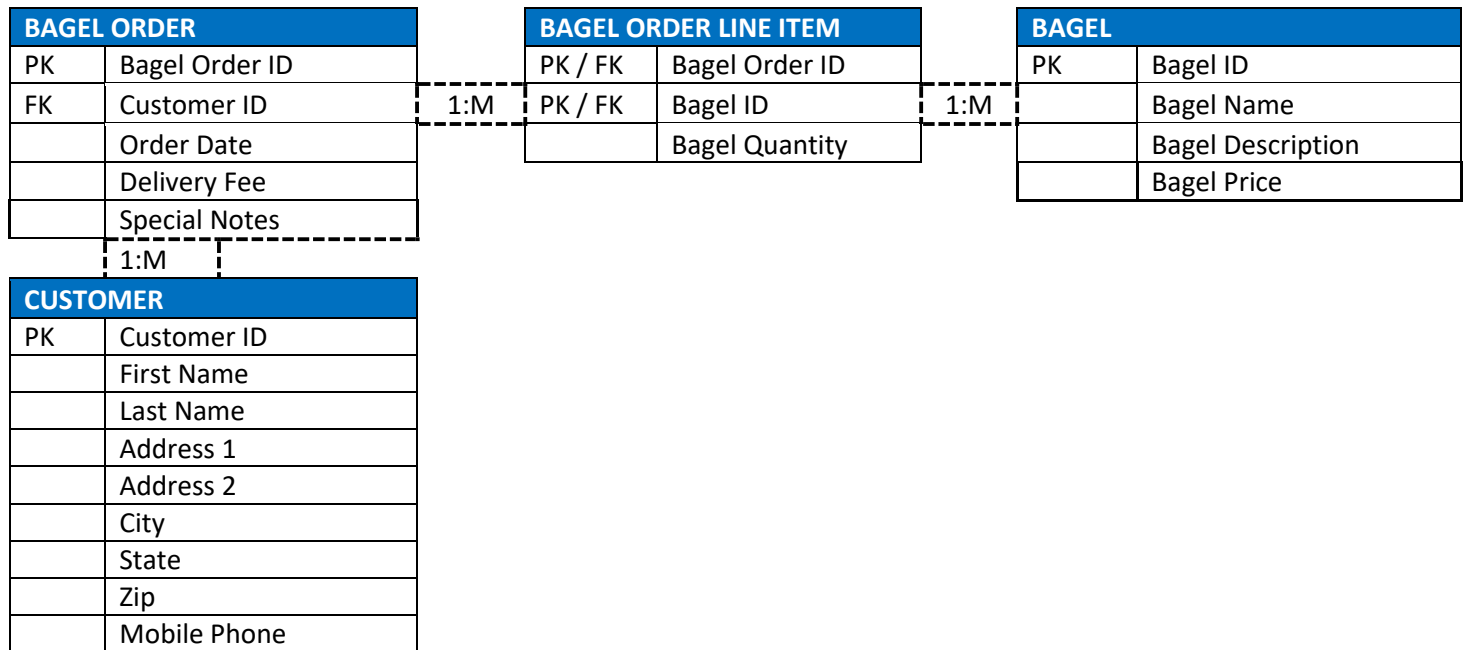
## Second Normal Form (2NF)



Explanation: The Bagel Order Table was separated into 3 separated tables based on functional dependency. For the Bagel Table: Bagel Name, Description, and Price, are all functionally dependent on Bagel ID, which is the determinant or primary key. In the Bagel Order Table, Bagel Order ID is the determinant, everything listed is functionally dependent on this primary key. The intermediary table has Bagel Order ID and Bagel ID as a composite key; both foreign keys are combined to be a unique key. Bagel quantity is functionally dependent on Bagel Order ID because the order will list out how many bagels were ordered. The bagel order and line item have a one-to-many relationship because there can only be one bagel order, while there can be many line items. For the relationship between the bagel and line item table, it would be a one- to-many because you can have many types of bagels, while one line item may exist at one time, separate from the bagel orders.

# Nora's Bagel Bin Database Blueprints *(continued)*

## Third Normal Form (3NF)



Explanation: To get to third normal form, a new table for Customer information had to be added. The primary key used for this table is Customer ID. The customers information including First Name, Last Name, Addresses, and Phone, were all transitive dependencies in 2nd normal form, which means they were attributes that depended on another attribute that was a non-key (Customer ID). This reduced data redundancy. The cardinality for the added table is a one-to-many relationship. One customer can have many orders, but each order will be associated with one customer.

# Nora’s Bagel Bin Database Blueprints *(continued)*

## Final Physical Database Model

