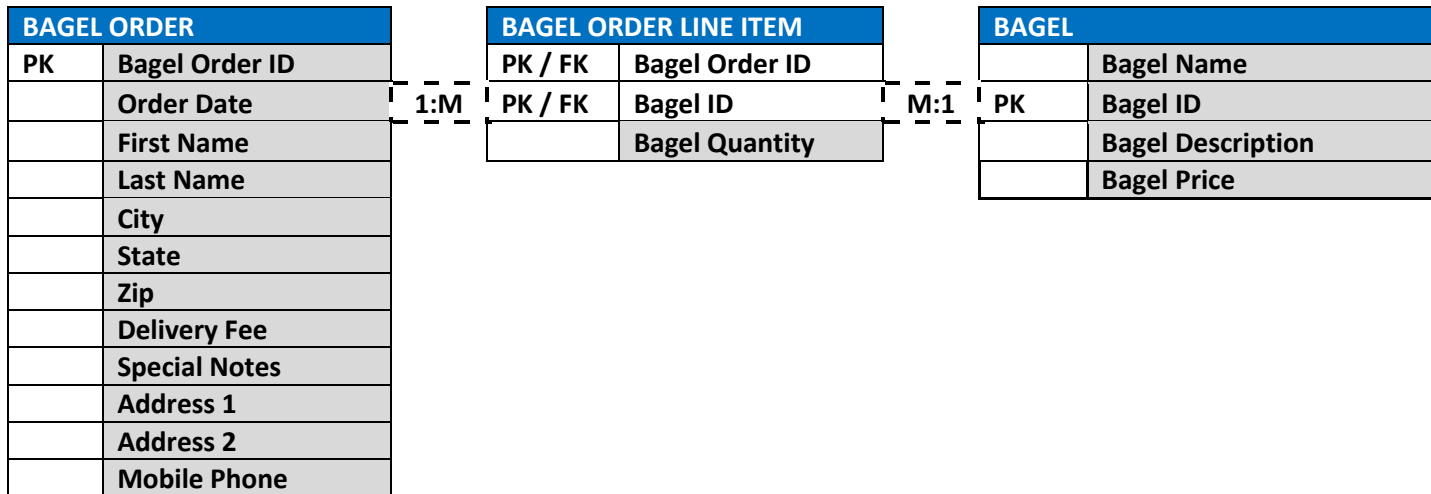


Nora's Bagel Bin Database Blueprints

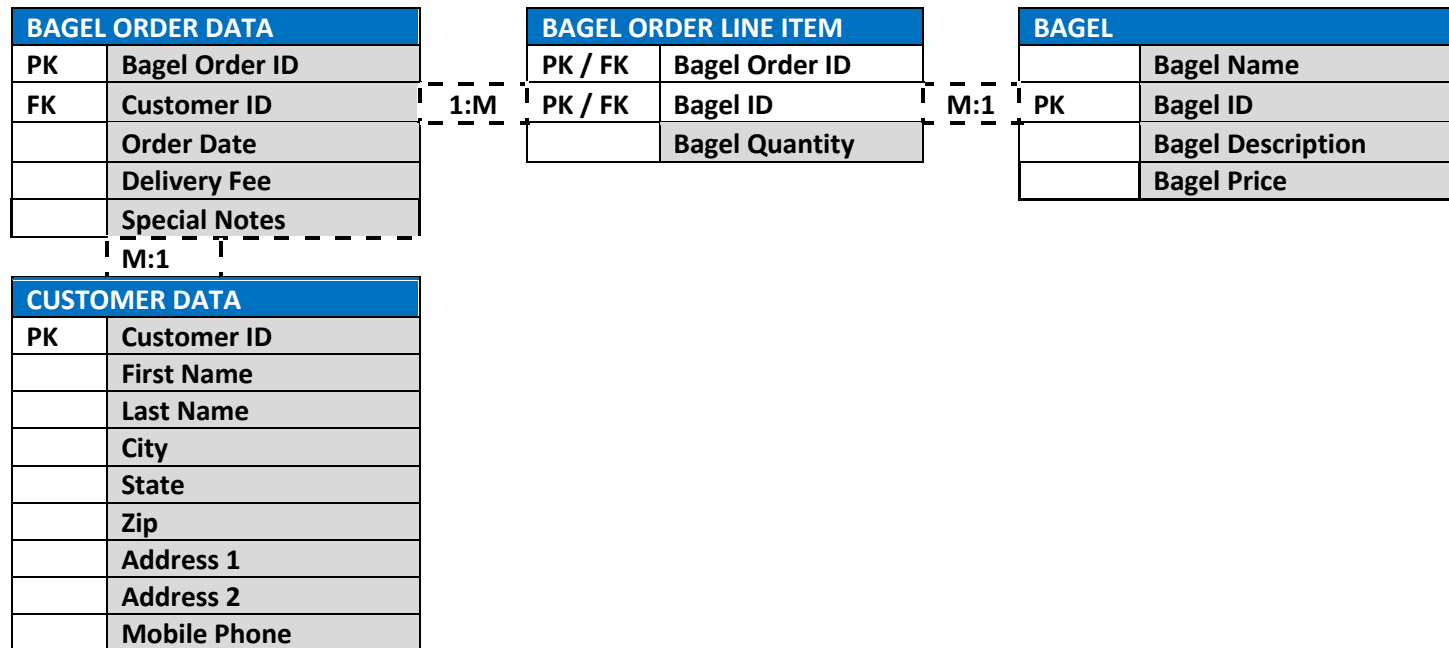
Second Normal Form (2NF)



- The submission assigns *all* attributes from the 1NF table into the correct 2NF table:** All Attributes from the 1NF table were assigned to their correct 2NF tables. No attributes were left out. (see above)
- The submission correctly describes the relationship between the 2 pairs of 2NF tables by indicating their cardinality in *each* of the dotted cells:** The relationship between the 2 pairs of 2NF tables is indicated by the cardinality which has been put into the two dotted boxes. (see above)
- The submission logically explains how the attributes were assigned to the 2NF tables and how the cardinality of the relationships was determined between the 2NF tables:** The attributes were assigned to the correct 2NF tables based on what primary key they had a relationship with. All the non-primary key attributes that could be determined by the Bagel Order ID were assigned to the Bagel Order Table. The Bagel Quantity could be determined by the composite key pair Bagel Order ID and the Bagel ID, so it was assigned to the Bagel Order Line Item table. The Bagel Name, ID, Description, and Price could be determined by the Bagel ID primary key, so it was assigned to the Bagel ID table. The cardinality of the relationship between Bagel Order Table and Bagel Order Line Item was determined as 1:M. This is because for every 1 Bagel Order there can be many different Bagel Quantities in that order. The cardinality between the Bagel Order Line Item table and the Bagel Table was determined at M:1. This is because there can be many Bagel Quantities for 1 type of bagel.

Nora's Bagel Bin Database Blueprints

Third Normal Form (3NF)

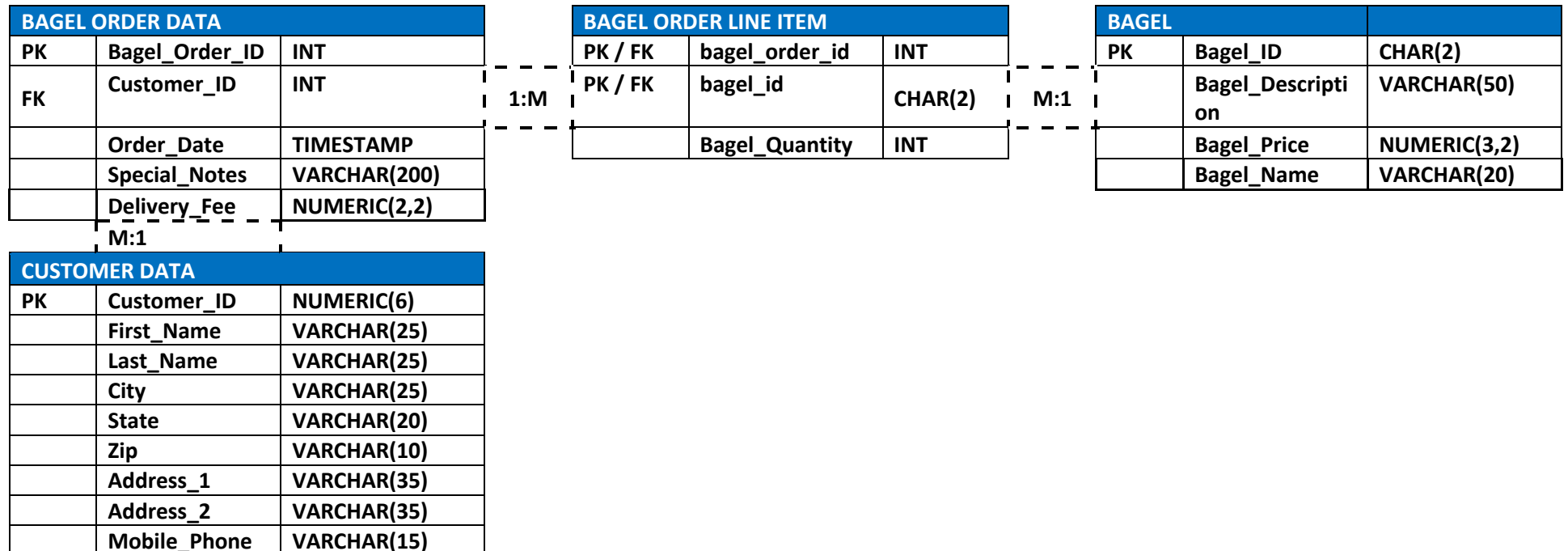


1. The submission assigns *all* attributes from the 2NF "Bagel Order" table into one of the new 3NF tables and copies *all* other information from the 2NF diagram into the 3NF diagram: All attributes from the Bagel Order table 2NF were normalized so they could be part of two tables in 3NF form. The rest of the attributes were copied into the same tables they were in before such as BAGEL table and BAGEL ORDER LINE ITEM table. (see above)
2. The submission provides a name for *each* 3NF table that reflects its contents: Each 3NF table is given a name, the new tables names are BAGEL ORDER DATA and CUSTOMER DATA. (see above)
3. The submission creates a new field that will be used as a key linking the 2 3NF tables. The PK and FK fields are in the correct locations in the 3NF diagram: New field is created in the customer table for primary key which is customer ID. This primary key will act as a foreign key in the Bagel Order Data table, so that these two tables can be related. (see above)
4. The submission correctly describes the relationships between the 3NF tables by indicating their cardinality in *each* of the dotted cells: Cardinality between each table is indicated on all the dotted boxes. (see above)
5. The submission logically explains how the attributes were assigned to the 3NF tables and how the cardinality of the relationships was determined between the 3NF tables: For a table to be in 3NF it can't have any transitive dependencies. In the 2NF the non prime attribute state could be

determined by the city and zipcode. And you could also find the phone number of a customer given their name. So, we could make another table just for customer information to get rid of the transitive dependency. Everything relating to customer information could be in a separate table and everything relating to an order could be in another table. The cardinality between the Bagel Order Data table and the Customer Data table was determined to be M:1. This is because there can be many orders from 1 customer. The cardinality between bagel order data table would be 1:M. This is because there can be 1 order of many different bagel quantities. The cardinality between the bagel order line item table and the bagel order table is m:1 because you can have many bagel quantities of 1 type of bagel.

Nora's Bagel Bin Database Blueprints

Final Physical Database Model



1. The submission correctly copies the table names and cardinality information from the 3NF diagram into the "Final Physical Database Model" and correctly renames the attributes: Table names were copied into new tables. Cardinality information was copied into new tables. Attributes were renamed. (see above)
2. The submission assigns 1 of the 5 data types to *each* attribute in the 3NF tables, and *each* data type is used *at least* once: Given datatypes are assigned to their corresponding attributes and each data type is used at least once. (see above)