

**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)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BAGEL ORDER** | |  | **BAGEL ORDER LINE ITEM** | |  | **BAGEL** | |
| PK | Bagel Order ID |  | PK / FK | Bagel Order ID |  | PK | Bagel Name |
|  | Order Date | 1:M | PK / FK | Bagel ID | M:1 | FK | Bagel ID |
|  | First Name |  |  | Bagel Quantity |  |  | Bagel Description |
|  | Last Name |  |  |  |  |  | Bagel Price |
|  | Address 1 |  |  |  |  |  |  |
|  | Address 2 |  |  |  |  |  |  |
|  | City |  |  |  |  |  |  |
|  | State |  |  |  |  |  |  |
|  | Zip |  |  |  |  |  |  |
|  | Mobile Phone |  |  |  |  |  |  |
|  | Special Notes |  |  |  |  |  |  |
|  | Delivery Fee |  |  |  |  |  |  |

A1c. Cardinality of 2NF tables.

The BAGEL ORDER Table has a relationship to the BAGEL ORDER LINE ITEM Table 1 to Many. One bagel order can have many line items.

So bagel order to bagel order line item is a 1 to Many relationship.

The BAGEL ORDER LINE ITEM Table has a Many to 1 relationship with BAGEL Table. You can have many of lines of items that are one type of bagel.

So Bagel order line item to bagel has a Many to 1 relationship.

Explanation of Attributes

The Attributes were assigned to be unique to each table. The Attributes represents the function and purpose of why the table exist.

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

**Third Normal Form (3NF)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BAGEL ORDER INFO | | |  | **BAGEL ORDER LINE ITEM** | |  | **BAGEL** | |
| PK | Bagel Order ID | |  | PK / FK | Bagel Order ID |  | PK | Bagel ID |
| FK | Customer ID | | 1:M | PK / FK | Bagel ID | M:1 |  | Bagel Description |
|  | Order Date | |  |  | Bagel Quantity |  |  | Bagel Name |
|  | Special Notes | |  |  |  |  |  | Bagel Price |
|  | Delivery Fee | |  |  |  |  |  |  |
|  | M:1 |  |  |  |  |  |  |  |
| **CUSTOMER INFO** | | |  |  |  |  |  |  |
| PK | Customer ID | |  |  |  |  |  |  |
|  | First Name | |  |  |  |  |  |  |
|  | Last Name | |  |  |  |  |  |  |
|  | Address 1 | |  |  |  |  |  |  |
|  | Address 2 | |  |  |  |  |  |  |
|  | City | |  |  |  |  |  |  |
|  | State | |  |  |  |  |  |  |
|  | Zip | |  |  |  |  |  |  |
|  |  | |  |  |  |  |  |  |

A2e. Explanation of Cardinality of 3NF Tables

The BAGEL ORDER INFO Table and the BAGEL ORDER LINE ITEM Table has a 1 to Many relationship. Both of the Bagel Order ID numbers of the two tables must be the same to Link both tables. The BAGEL ORDER INFO Table has a Many to 1 relationship with the CUSTOMER INFO Table.

Many bagel order info can below to 1 customer.

The BAGEL ORDER LINE ITEM Table and the BAGEL Table has a Many to 1 relationship. You can have many of lines of items that are one type of bagel.

Explanation of Attributes of 3NF Tables

The Attributes were assigned to be unique to each table. The Attributes represents the function and purpose of why the table exist.

The function of the BAGEL ORDER INFO Table is to gather all of the important information about the order. This table links to all of the

Other tables.

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

**Final Physical Database Model**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **BAGEL ORDER DATA** | | |  | **BAGEL ORDER LINE ITEM** | | |  | **BAGEL** | |  |
| PK | bagel\_order\_id | INT |  | PK / FK | bagel\_order\_id | INT |  | PK | bagel\_id | CHAR(2) |
| FK | customer\_id | INT | 1:M | PK / FK | bagel\_id | CHAR(2) | M:1 |  | Bagel\_name | VARCHAR(20) |
|  | order\_date | TIMESTAMP |  |  | bagel\_ quantity | INT |  |  | Bagel\_description | VARCHAR(50) |
|  | delivery\_fee | NUMERIC(2,2) |  |  |  |  |  |  | bagel\_price | NUMERIC(3,2) |
|  | special\_notes | VARCHAR(100) |  |  |  |  |  |  |  |  |
|  | M:1 |  |  |  |  |  |  |  |  |  |
| **Customer Data** | | |  |  |  |  |  |  |  |  |
| PK | customer\_id | INT |  |  |  |  |  |  |  |  |
|  | first\_name | VARCHAR(20) |  |  |  |  |  |  |  |  |
|  | last\_name | VARCHAR(20) |  |  |  |  |  |  |  |  |
|  | address\_1 | VARCHAR(100) |  |  |  |  |  |  |  |  |
|  | City | VARCHAR(20) |  |  |  |  |  |  |  |  |
|  | State | CHAR(2) |  |  |  |  |  |  |  |  |
|  | Zip | NUMERIC(5). |  |  |  |  |  |  |  |  |
|  | Mobile Phone | VARCHAR(100) |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |