Explanation to my design choices for primary and foreign keys in each normalized table

After breaking the table down into separate tables, I got 5 tables. The tables were:

1. Customer table
2. Products table
3. Order table
4. Inventory table
5. Order Details table

The breakdown of the tables are as follows

* Customer table:

The customer table will store data about customers. The customers table had four attributes. The attributes were:

* 1. customer\_id (I introduced this attribute to uniquely identify the customer’s table. i.e the primary key)
  2. customer\_name
  3. customer\_email
  4. customer\_address

The customer\_address had two values from my observations. The values were country and city. This is a violation of the 1st Normal Form, so I created two tables called city and country tables to store the customer\_address and reference it in the customer\_table.

The attributes of the country table were:

1. country\_id (Primary key to uniquely identify each country in this table)
2. country\_name

The attributes of the city table were:

1. city\_id (Primary key to uniquely identify each city)
2. city\_name
3. country\_id (Foreign key to reference the corresponding country which the city can be found in)

After breaking down the customer\_address into different tables, the customer table now had the following attributes:

1. customer\_id (Primary key to uniquely identify each customer)
2. customer\_name
3. customer\_email
4. city\_id (Foreign key referencing country)

* Products table

The products table will store data about products. The products table has four attributes.

The attributes are:

* 1. product\_id (Primary key to uniquely identify each product)
  2. product\_name
  3. price
  4. category
* Orders table

The orders table will store details about the orders placed by customers. The orders table has five attributes. The attributes are:

1. order\_id (Primary Key to uniquely identify each order placed)
2. order\_date
3. customer\_id (Foreign Key to reference the customer who placed this order)

* Inventory table

The inventory table will store data about products, the number of products left and the supplier of that product. The inventory table have four attributes. The attributes are:

* 1. supplier\_id (Primary Key to uniquely identify each supplier)
  2. supplier\_name
  3. stock\_quantity
  4. product\_id (Foreign Key to reference the product the supplier supplies)
* Order Details table

The order details table will store data about order items that makes up an order. The orders table have 5 attributes. The attributes are:

1. order\_details\_id (Primary Key to uniquely identify a specific product ordered in an order)
2. order\_id (Foreign Key to reference the order which this order detail is part of)
3. quantity
4. product\_id
5. total

After considering all the possible scenarios, the number of tables amounted to 6 tables. They are:

1. Customer table
2. City table
3. Country table
4. Products table
5. Orders table
6. Inventory table
7. Order Details table