Figure 3-33 shows typical sales data for the Queen Anne Curiosity Shop, and Figure 3-34 shows typical purchase data.

1. By assigning a different field in each case as the primary key, comment on the appropriateness of the following designs:
2. CUSTOMER (LastName, FirstName, Phone, Email, InvoiceDate, InvoiceItem, Price, Tax, Total)

**WELL LASTNAME IS NOT A GOOD IDEA TO ASSIGN AS PRIMARY KEY AS SOME OF THE CUSTOMERS MAY HAVE THE SAME LASTNAME**

1. CUSTOMER (LastName, FirstName, Phone, Email, InvoiceDate, InvoiceItem, Price, Tax, Total)

**ALSO THE SAME ONE FOR HERE. CUSTOMERS CAN HAVE SIMILAR FNAME AND LNAME**

1. CUSTOMER (LastName, FirstName, Phone, Email, InvoiceDate, InvoiceItem, Price, Tax, Total)

**WE CAN SEE THAT THERE ARE MORE THEN ONE OF THE SAME PHONE NUMBER**

1. CUSTOMER (LastName, FirstName, Phone, Email, InvoiceDate, InvoiceItem, Price, Tax, Total)

**THERE IS A SMALL CHANCE OF CUSTOMERS WITH SAME NAMES, SURNAMES AND INVOICE DATES ARE SAME BUT FOR THOSE ITEMS MAY CHANGE.**

1. CUSTOMER (LastName, FirstName, Phone, Email, InvoiceDate, InvoiceItem, Price, Tax, Total)

**THIS IS A BAD IDEA TOO**

1. CUSTOMER (LastName, FirstName, Phone, Email)

and:

SALE (InvoiceDate, InvoiceItem, Price, Tax, Total)

**NOT A GOOD IDEA. CAN’T MAKE THE RELASHION BETWEEN TWO TABLES.**

1. CUSTOMER (LastName, FirstName, Phone, Email, *InvoiceDate*)

and:

SALE (InvoiceDate, InvoiceItem, Price, Tax, Total)

**CANNOT DETERMINE UNIQUELY**

1. Modify what you consider to be the best design in part I to include surrogate ID columnscalled Customer ID and Sale ID.Write down the 2 tables structure after adding the 2 surrogate keys. How does this improve the design?

**CUSTOMER (CustomerID, LastName, FirstName, InvoiceDate, Email, Phone)**

**SALE (SaleID, CustomerID, InvocieDate, InvoiceItem, Price, Tax, Total)**

1. Do think both that now both tables in BCNF? (If not, show how you put them in 1NF, 2NF, 3NF till BCNF)

**THE FIRST TABLE IS IN BCNF BUT THE SECOND TABLE IS NOT**

**End of Assignment #1. Good Luck**







