1. Identify all partial dependencies.

CUSTOMER: cus\_lname, cus\_areacode, cus\_initial, cus\_balance, cus\_phone, cus\_fname

INVOICE: inv\_date

LINE: line\_units, line\_price

PRODUCT: p\_qoh, p\_discount, p\_price, p\_min, p\_description, p\_indate

VENDOR: v\_name, v\_contact, v\_phone, v\_order, v\_state, v\_areacode

2. Identify all transitive dependencies.

INVOICE: cus\_code

LINE: p\_code

PRODUCT: v\_code

3. Create relations in 3NF that represent the given Crow’s Foot ERD.

CUSTOMER:

(Cus\_code, cus\_lname, cus\_areacode, cus\_initial, cus\_balance, cus\_phone, cus\_fname)

3NF: CUSTOMER\_CONTACT: (Cus\_code, cus\_lname, cus\_areacode, cus\_initial, cus\_phone, cus\_fname)

CUSTOMER: (Cus\_code, cus\_balance)

INVOICE:

(Inv\_number, inv\_date, cus\_code)

3NF: (Inv\_number, inv\_date, cus\_code, p\_code)

LINE:

(inv\_number, p\_code), (line\_number, line\_units, line\_price)

3NF: (line\_number, line\_units, line\_price)

PRODUCT:

(p\_code, p\_qoh, p\_discount, v\_code, p\_price, p\_min, p\_description, p\_indate)

3NF: PRODUCT\_PRICE: (p\_description, p\_price, p\_discount, p\_min)

PRODUCT: (p\_code, p\_qoh, v\_code, p\_indate)

VENDOR:

(v\_code, v\_name, v\_contact, v\_phone, v\_order, v\_state, v\_areacode)

3NF: VENDOR\_Contact: (v\_contact, v\_phone, v\_name, v\_state, v\_areacode)

VENDOR: (v\_code, v\_order)

4. List the primary keys and the foreign keys associated with the different  
relations.

CUSTOMER: PK = cus\_code

INVOICE: PK = inv\_number; FK = cus\_code

LINE: PK = inv\_number, line\_number; FK = p\_code

PRODUCT: PK = p\_code; FK = v\_code

VENDOR: PK = v\_code