COM 120

Exercise 1: Determining entities and attributes

Analyzing the follow set of requirements list the entities. For each entity list the attributes.

The system for Bumbling Barry’s Beekeeping Supplies must:

1. Retain product information including current quantity on hand. Examples include:
   1. 1101 Bee boxes @ 15.00 each, a fixture, 85 on hand
   2. 1202 Beekeeper suit @ 49.95, a tool, 34 on hand
   3. 1303 Bee Quiet @ 8.95, a tool, 16 on hand
   4. 1404 Bunch o’ Bees with Queen 29.95, live stock, 5 on hand
   5. 1505 Bee Box Opener @ 4.59, a tool, 21 on hand
2. Provide for processing of orders including the generation of invoices and picking slips
3. Retain order information including:
   1. Order number
   2. Order date
   3. Item number
   4. Item description
   5. Item category
      1. Fixtures
      2. Tools
      3. Live stock
   6. Quantity Ordered
   7. Unit price
   8. Customer first name
   9. Customer last name
   10. Customer middle initial
   11. Customer street address
   12. Customer city
   13. Customer state
   14. Customer zip code
   15. Customer phone number
   16. Customer email address
   17. Customer id
   18. Customer total purchases to date

The current customers include:

501 Brenda B. Bransom 234 Bumble St. St Louis, IL 57654 555-555-5555 [blovely@gmail.com](mailto:blovely@gmail.com)

502 Lucille L. Lovely 122 Ozarks Rd. Fayetterville, AR 555-555-5554 [lbransom@grandold.com](mailto:lbransom@grandold.com)

503 Harry H. Haversheim 453 Southern PL. Orlando, FL 34565 555-555-5553 [hhh@aol.com](mailto:hhh@aol.com)

504 Carl C. Carson 16554 Old Lake Rd. Santee, CA 92071

* 1. Type of payment:
     1. Cash
     2. Credit card
     3. Check
  2. Source of the order. Current values include:
     1. 101 News paper
     2. 102 Yellow pages
     3. 103 Website
     4. 104 Berry
     5. 105 Alice
     6. 106 Fred

1. The tracking of shipped orders including back orders – no record design required at this time
2. Provide for inventory control
3. Maintain employee payroll records – no additional record design required at this time
4. Generate state and federal employee tax reports – no additional record designed required at this time
5. Generate profit and loss statements – no additional record design required at this time
6. Maintain balance sheet – no additional record design required at this time

Exercise 2: Normalize to Third Normal Form a record / database design for Bumbling Berry’s Beekeeping Supplies. Be sure to include:

1. Un-normalized record
2. First Normal Form
3. Second Normal Form (all tables)
4. Third Normal Form (all tables)