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HW4-EER Diagram

CUSTOMER
- Cust_ID
- Customer_Type
- Phone
- Address
  - Street
  - City
  - State
  - Zip

ORDER
- Date
- Quantity
- Crop_ID
- Cust_ID
- Purpose
- Order_ID

FARMER

PLANTS
- Plant_Type
- Season_End
- Location
- Year
- Per_Cost
- Yeild
- Num_Plant
- Insect_IDs

CUSTOMER —M— PLACES —N (0,n)— ORDER (0,n)
ORDER —N (0,1)— PREPARES —1 (0,1)— FARMER
FARMER —1 (0,n)— USES —N (0,n)— INSECTICIDE
FARMER —1 (0,1) 1— APPLIES —N (0,1)— GOVT_SUBSIDY
FARMER —1 (0,n)— PLANTS
CUSTOMER —N (0,n)— SOLD —M (0,n)— FRUIT

INSECTICIDE
- Usage
- Brand
- Supplier
- Insect_ID

GOVT_SUBSIDY
- S_Name
- Num_Sold
- Dates
  - Applied
  - Pay_Out
- Crop_ID

SOLD
- Comment
- Used_For
  - P_Name
  - Type

FRUIT
- Grown_Method
- Color
- Crop_ID
- Fruit_Name
- Plant_Type

CUSTOMER subclasses (d):
RETAIL_CUST (Customer=Retail)
- Name
  - FName
  - LName

WHOLESALE_CUST (Customer=Wholesale)
- Production_Type
- Contact_Name

WHOLESALE_CUST subclasses (o):
CHEMICAL (Wholesale=Chemical)
- Product
  - P_Name
  - Derivative
FOOD (Wholesale=Food)
- Product
  - P_Name
  - Brand
MEDICAL (Wholesale=Medical)
- Product
  - P_Name
  - Extract

FRUIT subclasses (d):
ORGANIC (Grown=Organic)
CONVENTIONAL (Grown=Conventional)

ORGANIC/CONVENTIONAL subclasses (o):
BUSHES (Plant Type=Bush)
- Min_Water_Amt
TREES (Plant Type=Tree)
- Avg_Height
VINES (Plant Type=Vine)
- Plant_Per_Acre

Assumptions:
1. a FARMER PREPARES N ORDERS 0 to N times
2. a FARMER USES N INSECTICIDES 0 to N times
3. a FARMER APPLIES for N GOVT_SUBSIDIES 0 to 1 at a time
4. a FARMER PLANTS N FRUIT 0 to N times
5. a CUSTOMER PLACES N ORDERS 0 to N times
6. a CUSTOMER is SOLD M FRUIT 0 to N times
7. FRUIT is SOLD to N CUSTOMERS 0 to N times
8. FRUIT is PLANTED by 1 FARMER 0 to N times
9. a ORDER is PERPARED by 1 FARMER 0 to 1 times
10. a ORDER is PLACED by M CUSTOMERS 0 to N times
11. a INSECTICIDE is USED by 1 FARMER 0 to N times
12. a GOVT_SUBSIDY is APPLIED by 1 FARMER 0 to 1 at a time
13. Product is a muti-valued attribute to record CUSTOMER goods
14. Dates is a mult-valued attribute for recorded dates
15. Insect_IDs is a multi-valued attribute for INSECTISIDES used
16. Used_For is a multi-valued attribute to track SELLS
17. Comment is a mult-valued attribute for comments
18. REATAIL_CUST and WHOLESALE_CUST are disjointed subclasses of CUSTOMER
19. CHEMICAL, FOOD, and MEDICAL are overlapping subclasses of type WHOLESALE_CUST
20. BUSHES, TRESS, and VINES are overlapping subclasses of type ORGANIC FRUIT or CONVENTIONAL FRUIT
21. ORGANIC and CONVENTIONAL are disjointed subclasses of FRUIT type
22. an ORDER can't exist without being PLACED or PREPARED(Total Participation)