Database Fundamentals

Labsheet 4

Exercise 3

For the table following, convert the table into a set of relations in 3rd normal form.
In each step identify if you are handling a repeating group, a partial dependency or a transitive dependency.
Save your work to <studentname>lab8.doc

Table 1Non-normalised relation

TransactionNo	Transaction Date	CustID	Item	Qty	Amount
T10	01/10/2014	4	Paint	2	60
T10	01/10/2014	4	Paint Brushes	4	30
T30	02/10/2014	9	Sealer	1	25

Solution

1st Normal Form

1st **Normal Form**

Identify repeating groups (groups of attributes that have more than one value for each instance of the primary key)

Transaction(transactioNo(PK), date, custid)

TransactionDetails(itemid(PK),transactionNo(PK, FK),item, qty, amount)

2ND **Normal Form**

 (Identify partial dependencies – only applicable if the primary key has more than one key)

Transaction(transactioNo(PK), date, custid)

TransactionDetails(itemid(PK,FK),transactionNo(PK, FK), qty, amount)

Item(Itemid(PK), item)

3RD Normal Form

Are there any other attributes not fully dependant on the primary key.

Transaction(transactionNo(PK), date, custid(FK))

TransactionDetails(transactionNo(PK, FK), itemid(PK),qty, amount)

Item(Itemid(PK,FK), item)

For completeness we could add a customer entity

Customer(custid(PK), customerName, address1,address2,address3)