Test 2

1. Multiple Choice: on note cards
2. Products(storeID, productid, productType, price, quantity)

Provide SQL instructions that produce a table where the columns are product types, the rows are stores (storeID). The content of each entry is the total number (quantity) of products of that particular type in a given store.

1. Suppose relation R and S have n tuples and m tuples, respectively. Give the minimum and maximum number of tuples that the results of the following expressions can have. Your answers MUST be written as functions of n and m.
   1. R U S
   2. R join S
   3. Select C (R) x S, for some condition C
   4. Project L (R) – S
2. Product (manufacturer, model, type)

PC (model, speed, ram, hd, cd, price)

Laptop (model, speed, ram, hd, acreen, price)

Printer (model, color, type, price)

Type product = PC, Laptop, printer

Type printer = laser, inkjet or thermal

Color printer = boolean

Ram is an int, hd is int and cd is speed in 1x, 2x…

Write the following in relational Algebra

1. Find the model Number and price of all products (of any type) made by a given manufacturer “IBM”
2. Find the model number of all color laser printers
3. Find the manufacturer, model and price of all PCs with a 6x or a 8x CD
4. Find those manufacturers that sell Laptops but not PC’s
5. Repeat ALL Queries from the previous question using SQL
6. Find the model Number and price of all products (of any type) made by a given manufacturer “IBM”
7. Find the model number of all color laser printers
8. Find the manufacturer, model and price of all PCs with a 6x or a 8x CD
9. Find those manufacturers that sell Laptops but not PC’s