**Supermarket Pricing**

To solve this problem 2 main parts are required. A product that identifies the products up for sale, and a pricing model that will identify the type of pricing calculation that should be used to calculate the price of 1 item or unit of the product.

The product should mainly consist of a name, a stock quantity, a pricing model.

The pricing models should make use of an interface to expose the capability to calculate the product item’s price.

There should also be a separate pricing model for each type of price calculation. The problem contains 3 models, but more can be added as needed.

Model 1 - Quantity Based :

Input: TotalPrice, Quantity

Calculation: TotalPrice / Quantity

Model 2 - Weight Based :

Input: TotalPrice, BaseWeight, PackedWeight

Calculation: TotalPrice / BaseWeight \* PackedWeight

Model 3 – Discount Based :

Input: ItemPrice, ItemsPaidFor, ItemsFree

Calculation: ItemPrice \* ItemsPaidFor / (ItemsPaidFor + ItemsFree)

**Scenarios:**

**3 for 1 $ =** Model 1 Input (1.00, 3)

**$1.99 / pound** = Model 2 Input (1.99, 16, 4)

**Buy 2 get 1 free** = Model 3 Input (1.00, 2, 1)

**Questions:**

* Does fractional money exist? Yes
* When should rounding take place? Only at the end of the price calculation
* How do you keep an audit trail of Yes you need to for profit calculations and

pricing decisions (and do you need to)? Historic reporting. Audit trail should be kept

on the input of the pricing model.

* Are costs and prices the same class of thing? Yes. Cost is to the seller what price is to the

buyer.

* If a shelf of 100 cans is priced using 100 \* the calculated product item price

“buy two, get one free”, how do you value according to the pricing model linked to the

the stock? Relevant product item.