Process Simulation – Inventory

(SimQuick Chap 3)

Example: A Grocery Store (an "order-up-to" policy)

- Management at a grocery store has received some complaints from customers that the store occasionally runs out of SuperWheat bread, which is baked by the SuperBread Company. Here is how the inventory process presently works.
- A truck from the SuperBread bakery drops off several types of loaves of freshly baked bread at the grocery store every other day.
- For each type of bread from the bakery, there is designated space on the shelves of the store and in the back of the store (the total space allotted to each type of bread depends on the demand for that type of bread).
- The driver drops off enough loaves for each type so the designated space for each type of bread is filled. (This is a simple version of what is sometimes referred to as an order-up-to inventory policy.)
- The store has designated enough space to hold 70 loaves of SuperWheat bread.

Example: A Grocery Store (an "order-up-to" policy)

- An examination of sales records (at times when there is SuperWheat on the shelf) shows that the time between purchases of a loaf of SuperWheat is .3 hours on average (with an exponential distribution).
- Management estimates that this demand pattern should be the same for the next 30 working days.
- The store is open 12 hours per day, 7 days per week.
- Management wants to determine the amount of storage space that should be designated for SuperWheat bread so that 99% of the customer demand is satisfied.

- We need a new element in SimQuick to model this system.
  Exit

Process Flow Map: A Grocery Store