Inventory

Single period problem with instantaneous demand

t is constant interval b/w order

Q is the stock for time t

r is the estimated demand at a discontinuous rate with probability P(r)

The optimal value Q

Q1: a backing company sells cake by the kg. it makes a profit of 50 paisa a kg on every sold on the day it is backed. It disposes of all cakes not sold on the date it is backed at a loss of 12 paisa a kg. if demand is known to be rectangular b/w 2000 and 3000 kg. Determine the optimal daily amount backed.

Solution:

C1=0.12

C2=0.50

Demand r is rectangular b/w 2000 to 3000 kg means the distribution f(r) :

Q-2000=806.45161

Q = 2806.45161 kg