7.18

variables:

C = # of customers who don't buy anything, T : time horizon

N_t = toy inventory at time t

Update Method

- initialize $t=0$, $C=0$, $N=4$

- while $t < T$

1) generate t_c : customer arrival time $\sim$ poisson(λ)
can use inverse transform

2) t += t_c

3) if $t > T$
- break out of while loop

4) generate d_c : customer's number of toys wants to buy
follow rules of P_i

5) if $d_c > N$:
- C += 1 : update # who have left w/out buying

else :

$-N$ -= d_c : remove d_c units from inventory

6) if $N == 0$:
$N = 10$: restock inventory immediately if empty