

## Computers of Tomorrow Ordering Simulation Example

	A	B	C	D	E	F	G	H	I	J
1		Computers of Tomorrow								
2										
3										
4		beginning	units	quantity	demand	ending	inventory	order?	lead	order arrives
5	day	inventory	received	demanded	satisfied	inventory	position	(0=n, 1=y)	time	on day
6	1	50	0	6	6	44	44	0	0	0
7	2	44	0	4	4	40	40	0	0	0
8	3	40	0	6	6	34	34	0	0	0
9	4	34	0	5	5	29	29	0	0	0
10	5	29	0	6	6	23	23	1	4	10

D6. =VLOOKUP(RAND(), 'prob data'!\$J\$25:\$K\$35, 2)  
 E6. =MIN(D6, B6+C6)  
 F6. =B6+C6-E6  
 G6. =F6  
 H6. =IF(G6<parameters!\$E\$5, 1, 0)  
 I6. =IF(H6=0, 0, VLOOKUP(RAND(), 'prob data'!\$D\$25:\$E\$27, 2))  
 J6. =IF(I6=0, 0, A6+1+I6)  
 B7. =F6  
 C7. =COUNTIF(\$J\$6:J6, A7)\*parameters!\$E\$7  
 D7. =VLOOKUP(RAND(), 'prob data'!\$J\$25:\$K\$35, 2)  
 E7. =MIN(D7, B7+C7)  
 F7. =B7+C7-E7  
 G7. =G6-E7+IF(H6=1, parameters!\$E\$7, 0)  
 H7. =IF(G7<parameters!\$E\$5, 1, 0)  
 I7. =IF(H7=0, 0, VLOOKUP(RAND(), 'prob data'!\$D\$25:\$E\$27, 2))  
 J7. =IF(I7=0, 0, A7+1+I7)  
 B8. =F7  
 C8. =COUNTIF(\$J\$6:J7, A8)\*parameters!\$E\$7  
 D8. =VLOOKUP(RAND(), 'prob data'!\$J\$25:\$K\$35, 2)  
 E8. =MIN(D8, B8+C8)  
 F8. =B8+C8-E8  
 G8. =G7-E8+IF(H7=1, parameters!\$E\$7, 0)  
 H8. =IF(G8<parameters!\$E\$5, 1, 0)  
 I8. =IF(H8=0, 0, VLOOKUP(RAND(), 'prob data'!\$D\$25:\$E\$27, 2))  
 J8. =IF(I8=0, 0, A8+1+I8)  
 B9. =F8  
 C9. =COUNTIF(\$J\$6:J8, A9)\*parameters!\$E\$7  
 D9. =VLOOKUP(RAND(), 'prob data'!\$J\$25:\$K\$35, 2)  
 E9. =MIN(D9, B9+C9)  
 F9. =B9+C9-E9  
 G9. =G8-E9+IF(H8=1, parameters!\$E\$7, 0)  
 H9. =IF(G9<parameters!\$E\$5, 1, 0)  
 I9. =IF(H9=0, 0, VLOOKUP(RAND(), 'prob data'!\$D\$25:\$E\$27, 2))  
 J9. =IF(I9=0, 0, A9+1+I9)  
 B10. =F9

C10. =COUNTIF(\$J\$6:J9,A10)\*parameters!\$E\$7  
 D10. =VLOOKUP(RAND(),'prob data'!\$J\$25:\$K\$35,2)  
 E10. =MIN(D10,B10+C10)  
 F10. =B10+C10-E10  
 G10. =G9-E10+IF(H9=1,parameters!\$E\$7,0)  
 H10. =IF(G10<parameters!\$E\$5,1,0)  
 I10. =IF(H10=0,0,VLOOKUP(RAND(),'prob data'!\$D\$25:\$E\$27,2))  
 J10. =IF(I10=0,0,A10+1+I10)

### Prob Data Worksheet

	A	B	C	D	E	F	G	H	I	J	K
19											
20		Look Up Table									
21											
22											
23		shipping time						quantity demanded			
24		days	prob	Look Up Table				units	prob	Look Up Table	
25		3	0.2	0	3			0	0.01	0	0
26		4	0.6	0.2	4			1	0.02	0.01	1
27		5	0.2	0.8	5			2	0.04	0.03	2
28				1				3	0.06	0.07	3
29								4	0.09	0.13	4
30								5	0.14	0.22	5
31								6	0.18	0.36	6
32								7	0.22	0.54	7
33								8	0.16	0.76	8
34								9	0.06	0.92	9
35								10	0.02	0.98	10
36									1	1	

### Parameters Worksheet

	A	B	C	D	E	F	G
4							
5			reorder point		28		
6							
7			order quantity		50		

### Data Table to Evaluate Reorder Point Impact on Service Level

	A	B	C	D	E	F	G
7			order quantity		50		
8							
9			Possible reorder points				
10		0.934426	28	30	32	34	36
11		1	0.965909	0.993506	0.959302	0.968085	0.952663
12		2	0.962567	0.928962	0.973262	0.97561	0.935644
13		3	0.855615	0.970874	0.951613	0.943503	0.953608
14		4	0.935829	0.895833	0.989418	0.957831	0.957055