## overbook

	A		В		С	D	Е		F
1	Overbooking Model								
2		Fir	st Class	E	conomy		OL_First	OL_	Econ
3	Ticket Price	\$	600	\$	300		0		0
4	Penalty	\$	500	\$	200		0		5
5	Seats		50		190		0		10
6	Expected Demand		50		200		0		15
7	Probability of Coming		0.93		0.96		0		20
8							0		25
9	Overbooking		0		0		5		0
10							5		5
11	Demand		50		200		5		10
12	Tickets Sold		50		190		5		15
13	Passengers Arrived		47		182		5		20
14	Passengers Seated		47		182		5		25
15	Passengers Not Seated		0		0		10		0
16	Revenue from tickets	\$	28,200	\$	57,000		10		5
17	Penalty for Overbooking	\$	-	\$	-		10		10
18	Profit	\$	28,200	\$	57,000		10		15
19							10		20
20	Total Profit						10		25
21	\$ 85,200						_		

## overbook

	A	В	С	D	Е	F
1	Overbooking Model					
2		First Class	Economy		Fi	L_Ec
3	Ticket Price	600	300		0	0
4	Penalty	500	200		0	5
5	Seats	50	190		0	10
6	Expected Demand	50	200		0	15
7	Probability of Coming	0.93	0.96		0	20
8					0	25
9	Overbooking	=RiskSimtable(E3:E20)	=RiskSimtable(F3:F20)		5	0
10					5	5
11	Demand	=RiskPoisson(B6)	=RiskPoisson(C6)		5	10
12	Tickets Sold	=MIN(B11,B5+B9)	=MIN(C11,C5+C9)		5	15
13	Passengers Arrived	=RiskBinomial(B12,B7)	=RiskBinomial(C12,C7)		5	20
14	Passengers Seated	=MIN(B5,B13)	=MIN(B5+C5-B14,C13)		5	25
15	Passengers Not Seate	=RiskOutput()+B13-B14	=RiskOutput()+C13-C14		10	0
16	Revenue from tickets	=B3*B14	=C3*C12		10	5
17	Penalty for Overbook	=B15*B4	=C15*(C3+C4)		10	10
18	Profit	=B16-B17	=C16-C17		10	15
19					10	20
20	Total Profit				10	25
21	=RiskOutput()+B18+0					

## @RISK Output Results Performed By: Levin, Yuri G

Performed By: Levin, Yuri G Date: March-03-13 1:46:44 PM

Name	Cell	Sim#	Graph	Mir	n	Mean		Max		5%		95%		Errors
Total Profit	A21	1	\$8,000 88,000 \$8,000	\$	68,100	\$	82,745	\$	87,000	\$	77,100	\$	86,400	0
Total Profit	A21	2	\$5,000 90,000 \$1,000	\$	68,100	\$	83,789	\$	88,500	\$	77,700	\$	87,300	0
Total Profit	A21	3	65,000 95,000	\$	68,100	\$	84,539	\$	90,000	\$	78,000	\$	88,800	0
Total Profit	A21	4	65,000 95,000	\$	68,100	\$	84,771	\$	90,900	\$	78,000	\$	88,900	0
Total Profit	A21	5	65,000 95,000	\$	68,100	\$	84,683	\$	91,100	\$	78,000	\$	88,800	0
Total Profit	A21	6	65,000 95,000	\$	68,100	\$	84,549	\$	91,100	\$	78,000	\$	88,600	0
Total Profit	A21	7	68,000 88,000 68,000	\$	68,100	\$	83,263	\$	87,000	\$	77,400	\$	87,000	0
Total Profit	A21	8	62,000 90,000 65,000 90,000	\$	68,100	\$	84,293	\$	88,500	\$	78,000	\$	88,200	0
Total Profit	A21	9	62,000 95,000	\$	68,100	\$	84,900	\$	90,000	\$	78,300	\$	89,100	0
Total Profit	A21	10	65,000 95,000	\$	68,100	\$	85,010	\$	91,500	\$	78,300	\$	89,100	0
Total Profit	A21	11	65,000 95,000	\$	68,100	\$	84,903	\$	91,500	\$	78,300	\$	88,900	0
Total Profit	A21	12	65,000 95,000	\$	68,100	\$	84,769	\$	91,500	\$	78,300	\$	88,800	0
Total Profit	A21	13	68,000 88,00 <u>0</u>	\$	68,100	\$	82,981	\$	87,000	\$	77,400	\$	86,500	0
Total Profit	A21	14	ê2'000 ə0'000	\$	68,100	\$	84,010	\$	88,500	\$	77,700	\$	88,000	0
Total Profit	A21	15	65,000 95,000	\$	68,100	\$	84,608	\$	90,000	\$	78,000	\$	89,000	0
Total Profit	A21	16	65,000 95,000	\$	68,100	\$	84,713	\$	91,500	\$	78,000	\$	88,800	0
Total Profit	A21	17	65,000 95,000	\$	68,100	\$	84,605	\$	91,500	\$	78,000	\$	88,700	0
Total Profit	A21	18	65,000 95,000	\$	68,100	\$	84,471	\$	91,500	\$	78,000	\$	88,500	0
Passengers			-0.6 0.6					,	/	-				
Not Seated /	B15	1	· ·	0		0		0		0		0		0
First Class			26											
Passengers Not Seated /	B15	2	-0.6 ▼ 0.6	0		0		0		0		0		0
First Class	БТЭ	2		U		U		U		U		U		U
Passengers			-0.6 0.6											
	B15	3	,	0		0		0		0		0		0
First Class			-0.6 0.6											
Passengers Not Seated /	B15	4	-0.6 0.6 ▼	0		0		0		0		0		0
First Class	D13	7		Ü										J
Passengers			-0.6 0.6											
	B15	5		0		0		0		0		0		0
First Class Passengers			-0.6 0.6											
_	B15	6	•	0		0		0		0		0		0
First Class														
Passengers			-1 ▼ 6											
Not Seated / First Class	B15	7		0		0.43	32	5		0		3		0
First Class Passengers			-1 6 V											
Not Seated /	B15	8	•	0		0.43	32	5		0		3		0
First Class			11											
Passengers	D1 F		-1 ▼ 6			0.4	22	_						
Not Seated / First Class	R12	9		0		0.43	32	5		0		3		0
Passengers			-1 6 V											
Not Seated /	B15	10	'	0		0.43	32	5		0		3		0
First Class			111111											
Passengers	D1E	11	-1 ▼	0		0.4	າາ	_		0		2		0
Not Seated / First Class	010	11		0		0.43	3Z	5		U		3		0
Passengers			-1 6 V											
Not Seated /	B15	12	•	0		0.43	32	5		0		3		0
First Class			A Linear											

Not Seried / B15   13   14   2   10   0   0   0   6   0   First Class Passengers Not Seried / B15   14   2   10   0   1.066667   10   0   0   6   0   First Class Passengers Not Seried / B15   15   15   15   0   0   1.066667   10   0   0   6   0   First Class Passengers Not Seried / B15   15   15   0   0   1.066667   10   0   0   6   0   First Class Passengers Not Seried / B15   16   16   2   10   0   1.066667   10   0   6   0   First Class Passengers Not Seried / B15   17   1   0   0   1.066667   10   0   6   0   First Class Passengers Not Seried / B15   18   17   2   10   0   1.066667   10   0   6   0   First Class Passengers Not Seried / B15   18   2   10   0   0   0   0   0   0   First Class Passengers Not Seried / B15   18   2   10   0   0   0   0   0   0   First Class Passengers Not Seried / B15   18   2   0   0   0   0   0   0   0   0   First Class Passengers Not Seried / B15   18   0   0   0   0   0   0   0   0   0   First Class Passengers Not Seried / C15   2   0   0   0   0   0   0   0   0   0	_						T	Г	1	
Not Seated / B15	Passengers			-2 • 12						
Passengers Not Seated / B15	Not Seated /	B15	13		0	1.066667	10	0	6	0
Passengers Not Seated / B15	First Class			1,,,,,,,,,						
Not Seated / B15	Passengers			-2   12						
First Class Passengers Not Seated / B15		D15	1/	*	0	1 066667	10	0	6	0
Passengers Not Seated / B15   15   15   16   0   1.066667   10   0   6   0   Passengers Not Seated / B15   16   0   1.066667   10   0   6   0   Passengers Not Seated / B15   17   0   0   1.066667   10   0   6   0   Passengers Not Seated / B15   17   0   0   1.066667   10   0   6   0   Passengers Not Seated / B15   18   0   0   1.066667   10   0   6   0   Passengers Not Seated / C15   18   0   0   0   0   0   0   0   Passengers Not Seated / C15   1   0   0   0   0   0   0   Passengers Not Seated / C15   2   0   0   0   0   0   0   0   Passengers Not Seated / C15   2   2   0   0   0   0   0   0   Passengers Not Seated / C15   3   0   0   0   0   0   0   Passengers Not Seated / C15   3   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   0   Passengers Not Seated / C15   5   0   0   0   0   0   0   0   Passengers Not Seated / C15   0   0   0   0   0   0   0   0   Passengers Not Seated / C15   10   0   0   0   0   0   0   0   0   Passengers Not Seated / C15   10   0   0   0   0   0   0   0   0		013	14		O	1.000007	10	U	U	O
Not Seated / B15				Immoo						
Not Seated / B15				-2 12 V						
Passengers Not Seated / B15	Not Seated /	B15	15		0	1.066667	10	0	6	0
Passengers Not Seated / B15	First Class									
Not Seated / B15				-2 1 12						
Passenger   Pass		D1E	14	•	0	1 044447	10	0	4	0
Passengers Not Seated / B15		ыэ	10		U	1.000007	10	U	0	U
Not Seated / B15										
Not Seated / B15	Passengers			-2   12						
First Class Passengers Not Seated / C15	Not Seated /	B15	17	·	0	1.066667	10	0	6	0
Passengers Not Seated / C15										
Not Seated / B15										
First Class Passengers Not Seated / C15		D1F	10	v v		1 0////7	10	0	,	0
Passengers Not Seated / C15		B12	18		U	1.066667	10	U	6	U
Not Seated / C15				Junior						
Not Seated / C15	Passengers			-0.6						
Faconomy   Passengers   Not Seated   C15   2   3   5   5   5   5   5   5   5   5   5	Not Seated /	C15	1	· ·	0	0	0	0	0	0
Passengers Not Seated / C15										
Not Seated / C15				-0.5						
Seconomy   Passengers   Not Seated / C15   Seconomy   Passengers   Not Seated / C15   Seconomy   Passengers   Not Seated / C15   Seconomy		015	2	¥ 3.5		0.007////	2			
Passengers Not Seated / C15		C15	2		U	0.00766667	3	U	U	U
Not Seated / C15										
Not Seated / C15	Passengers			-1  8						
Passengers   Pas	Not Seated /	C15	3	<b>'</b>	0	0.2036667	7	0	2	0
Passengers   Not Seated / C15   A   A   B   B   B   B   B   B   B   B		0.0	·			0.20000.	,			
Not Seated / C15				7. 14						
Conomy   Passengers   Not Seated   C15	•	045		¥ ¥		4 04 / / / 7	40		,	
Passengers Not Seated / C15	Not Seated /	C15	4		0	1.016667	12	0	6	0
Not Seated / C15	Economy									
Not Seated / C15	Passengers			-2 18						
Economy   Passengers   Not Seated / C15   C15   C15   C25   C15   C25   C25		C15	5	<b>'</b>	0	2.081	16	0	10	0
Passengers Not Seated / C15		0.10	· ·			2.001	10	o .	10	·
Not Seated / C15										
Economy Passengers   Not Seated / C15   7				-5 Z5						
Passengers Not Seated / C15	Not Seated /	C15	6		0	2.913333	21	0	14	0
Passengers Not Seated / C15	Economy									
Not Seated / C15				-0.6 0.6						
Economy Passengers   Not Seated / C15		C15	7	, ,	0	n	0	0	0	0
Passengers Not Seated / C15		013	,		O	O	O	O	O	O
Not Seated / C15				ole 4.5						
Economy   Passengers   Not Seated / C15   9   0   0   0.5163333   8   0   4   0	_			-0.5 4.5						
Passengers Not Seated / C15	Not Seated /	C15	8		0	0.03433333	4	0	0	0
Passengers Not Seated / C15	Economy			1						
Not Seated / C15	Passengers			-1  9						
Conomy   Passengers   Not Seated / C15   10   T	Not Soated /	C15	0	*	0	O 5162222	0	0	4	0
Passengers   Not Seated / C15   10   2   14   0   1.573333   13   0   8   0   0		010	7		U	0.0103333	U	U	7	U
Not Seated / C15										
Not Seated / C15				-2 V						
Passengers Not Seated / C15  13  26  27  0  0  0  0  0  0  0  0  0  0  0  0  0	Not Seated /	C15	10		0	1.573333	13	0	8	0
Passengers Not Seated / C15  13  26  27  0  0  0  0  0  0  0  0  0  0  0  0  0	Economy									
Not Seated / C15	Passengers									
Passengers Not Seated / C15		C15	11		0	2.675333	18	0	12	0
Not Seated / C15	Daccondore			-5 76						
Passengers Not Seated / C15	assengers	C15	12		0	3.509333	23	0	16	0
Not Seated / C15	Not Seated /			-0.6 , 0.6						
Not Seated / C15		C15	13	•	0	0	0	0	0	0
Not Seated / C15	Passenders /			-0L5 A.E.						
Passengers Not Seated / Passengers Not Seated / C15  15  10  0  0.537  9  0  4  0  Passengers Not Seated / C15  16  0  1.604667  14  0  8  0  Economy Passengers Not Seated / C15  17  0  2.707333  18  0  12  0	_	C15	1/	₹,5	0	0.036	4	n	0	0
Passengers Not Seated / Passengers Not Seated / C15  15  16  16  16  17  18  19  10  10  10  10  10  10  10  10  10		U10	14		U	0.030	4	U	U	U
Not Seated / C15	Daccongore			-1 10						
Not Seated / Passengers Not Seated / C15		C15	15	•	0	0.537	9	0	4	0
Not Seated / C15 16 0 1.604667 14 0 8 0  Economy Passengers Not Seated / C15 17 0 2.707333 18 0 12 0	Not Seated /			1						
Not Seated / C15	Passengers			-2 16						
Economy Passengers Not Seated / C15		C15	16	•	0	1.604667	14	0	8	0
Passengers Not Seated / C15 17 0 2.707333 18 0 12 0					-			_	-	1-
Not Seated / C15 17 0 2.707333 18 0 12 0	Dassanders									
Not Seated /		C15	17	•	0	2.707333	18	0	12	0
	Not Seated /			.5						1
Passengers C15 18 25 0 3.541333 23 0 16 0		C15	18	¥ 25	0	3 541333	23	0	16	0
Not Seated / C13	Not Seated /	010			~	0.041000	20			