<R, r> Model	
2.Read Data	
Are the initial values of R, r, Q or T unknow?	No
Annual Expected Demand, D	125
Maximum Level of Inventory, R	61
Reorder Level, r	16
Ordering Cost ($/order), Co	1.5
Holding Cost ($/unit- year), Ch	1
Stockout Cost ($/unit-year)	0.2
Backorders or Lost Sales?	Lost Sales
Prob.Distribution for Demand	Poisson(125)
Prob.Distribution for Lead Time	Constant(0.02)
Prob.Distribution for Time Between Demands	Poisson(45)
Number of simulations in each process?	10
Lenght of each simulation (in days)	360
Type any number to begin	7
4. Simulation	
Annual Average Cost	**56.9**

5. Minimization	
Do you want to use some initial solution?	Yes
Type the next values:	
R =	61
r =	16
Increments:	
R =	1
r =	1
Number of iterations you want to use	3

	R	r	TC	
Iteration 1	63	14	53.47	
Iteration 2	**61**	**14**	**51.13**	**Best Neighbor**
Iteration 3	63	16	51.78	

6. Minimization	
Do you want to use some initial solution?	Yes
Type the next values:	
R =	61
r =	16
Max R Value/ Min R Value	63/59
Max r Value/ Min r Value	18/14
Number of Generations	3
Sizeof the Population	5
Crossover probability?	0.5
Mutation probability?	0.5

	R	r	TC	
Generation 1	**61**	**14**	**54.79**	**Best Son**
Generation 2	58	49	57.71	
Generation 3	52	42	59.76	

The first-order model fit is:
Y= 124.3064 - 1.0748*R - 0.1840*r

7. Minimization	
Do you want to use some initial solution?	Yes
Type the next values:	
R =	61
r =	16
Max R Value/ Min R Value	63/59
Max r Value/ Min r Value	18/14
α =	0.05
Increment of R	1

R	r	TC	
62.00	16.17	56.23	
63.00	16.34	55.42	
64.00	**16.51**	**52.83**	**Best Solution**
65.00	16.68	53.37	

New R Value	64
New r Value	16.51
Max R Value/ Min R Value	66/62
Max r Value/ Min r Value	17/15

The first-order model fit is:
Y= 90.2342 - 0.5385*R - 0.2195*r

The second-order model fit is:
Y= -167.7061-0.3750*R+29.8963*r+1.3661E-07*R^2-0.9088*r^2-3.9533E-07*Rr

<Q, r> Model	
2.Read Data	
Are the initial values of R, r, Q or T unknow?	Yes
Annual Expected Demand, D	100
Ordering Cost ($/order), Co	30
Holding Cost ($/unit- year), Ch	2
Stockout Cost ($/unit-year)	6
Backorders or Lost Sales?	Lost Sales
Prob.Distribution for Demand	Gamma(1,5)
Prob.Distribution for Lead Time	Constant(1)
Prob.Distribution for Time Between Demands	Constant(2)
Number of simulations in each process?	7
Lenght of each simulation (in days)	360
Type any number to begin	7
4. Simulation	
Annual Average Cost	**1098.37**

5. Minimization	
Do you want to use some initial solution?	No
Q =	Qw=54
Value for the Increments:	1
Number of iterations you want to use	7

	Q	r	TC	
Iteration 1	56	29	577.92	
Iteration 2	58	28	579.32	
Iteration 3	59	27	570.54	
Iteration 4	61	27	556.45	
Iteration 5	62	26	532.41	
Iteration 6	63	27	537.39	
Iteration 7	**63**	**29**	**522.70**	**Best Neighbor**

6. Minimization	
Do you want to use some initial solution?	No
Q =	Qw=54
r =	rw=27
Max Q Value/ Min Q Value	56/52
Max r Value/ Min r Value	27/l0
Number of Generations	7
Sizeof the Population	4
Crossover probability?	0.5
Mutation probability?	0.5

	Q	r	TC	
Generation 1	**62**	**15**	**542.06**	**Best Son**
Generation 2	55	11	573.60	
Generation 3	53	6	566.94	
Generation 4	55	11	587.09	
Generation 5	55	15	582.82	
Generation 6	53	7	595.28	
Generation 7	53	15	604.69	

7. Minimization	
Do you want to use some initial solution?	No
Q =	Qw=54
r =	rw=27
Max Q Value/ Min Q Value	56/52
Max r Value/ Min r Value	27/l0
α =	0.25
Increment of Q	1

The first-order model fit is:
Y= 996.1526 - 8.1640*Q -2.3618*r

Q	r	TC	
55.00	18.21	589.17	
56.00	17.92	572.82	
57.00	17.63	560.71	New Value
58.00	17.34	581.07	

New Q Value	57.00
New r Value	17.63
Max Q Value/ Min Q Value	58/56
Max r Value/ Min r Value	18/8

The first-order model fit is:
Y= 1515.2573 - 16.7391*Q + 0.8613*r

Q	r	TC	
58.00	12.95	541.89	New Value
59.00	12.90	560.58	

New Q Value	58.00
New r Value	12.98
Max Q Value/ Min Q Value	60/56
Max r Value/ Min r Value	13/6

The first-order model fit is:
Y= 1280.7400 - 13.3975*Q + 5.5834*r

Q	r	TC	
59.00	9.08	531.11	New Value
60.00	8.67	552.67	

New Q Value	59.00
New r Value	9.08
Max Q Value/ Min Q Value	61/67
Max r Value/ Min r Value	11/5

The first-order model fit is:
Y= 1142.6071 - 10.4725*Q + 3.1354*r

Q	r	TC	
60.00	7.70	547.25	
61.00	7.40	521.42	
62.00	7.10	509.03	New Value
63.00	6.80	514.46	

New Q Value	62.00
New r Value	7.10
Max Q Value/ Min Q Value	64/60
Max r Value/ Min r Value	9/5

The first-order model fit is:
Y= 1011.7441 - 7.8691*Q - 1.1829*r

Q	r	TC	
63.00	**7.15**	**506.41**	**Best Solution**
64.00	7.30	527.62	

New Q Value	63.00
New r Value	7.15
Max Q Value/ Min Q Value	65/61
Max r Value/ Min r Value	8/6

The first-order model fit is:
Y= 651.7549 - 2.2138*Q - 1.2341*r

The second-order model fit is:
Y= 1297.0554-10.1280*Q-34.0902*r-0.0000*Q^2+2.0139*r^2-0.0000*Qr

<Q, r> Model	
2.Read Data	
Are the initial values of R, r, Q or T unknow?	No
Annual Expected Demand, D	1091
Economic Lot Size, Q	40
Reorder Level, r	27
Ordering Cost ($/order), Co	6
Holding Cost ($/unit- year), Ch	11
Stockout Cost ($/unit-year), Cs	250
Reviewing Cost ($/review), Cr	1
Backorders or Lost Sales?	Backorders
Prob.Distribution for Demand	Normal (25,100)
Prob.Distribution for Lead Time	Constant(1)
Prob.Distribution for Time Between Demands	Constant(2)
Number of simulations in each process?	10
Lenght of each simulation (in days)	360
Type any number to begin	7
4. Simulation	
Annual Average Cost	**1287.37**

5. Minimization	
Do you want to use some initial solution?	Yes
Type the next values:	
Q =	40
r =	27
Increments:	
Q =	1
r =	1
Number of iterations you want to use	5

	Q	r	TC	
Iteration 1	42	28	1262.76	
Iteration 2	44	26	1245.23	
Iteration 3	46	24	1230.13	
Iteration 4	48	24	1203.34	
Iteration 5	**50**	**25**	**1181.75**	**Best Neighbor**

6. Minimization	
Do you want to use some initial solution?	Yes
Type the next values:	
Q =	40
r =	27
Max Q Value/ Min Q Value	42/38
Max r Value/ Min r Value	29/25
Number of Generations	5
Sizeof the Population	5
Crossover probability?	0.5
Mutation probability?	0.5

	Q	r	TC	
Generation 1	41	29	1282.56	
Generation 2	41	28	1282.54	
Generation 3	41	26	1297.24	
Generation 4	41	30	1288.66	
Generation 5	**43**	**49**	**1261.55**	**Best Son**

7. Minimization	
Do you want to use some initial solution?	Yes
Type the next values:	
Q =	40
r =	27
Max Q Value/ Min Q Value	42/38
Max r Value/ Min r Value	29/25
α =	0.1
Increment of Q	1

The first-order model fit is:
Y= 1740.9719 - 11.9768*Q + 1.4953*r

Q	r	TC	
41.00	26.88	1283.84	
42.00	26.75	1266.20	
43.00	26.63	1265.90	
44.00	26.50	1249.45	
45.00	26.38	1243.08	
46.00	26.25	1237.92	
47.00	26.13	1224.06	
48.00	26.00	1222.22	
49.00	25.88	1207.21	New Value
50.00	25.75	1207.95	

The first-order model fit is:
Y= 1535.0864 - 8.1313*Q + 2.7891*r

New Q Value	49.00
New r Value	25.88
Max Q Value/ Min Q Value	51/47
Max r Value/ Min r Value	28/24

Q	r	TC	
50.00	25.66	1220.66	
51.00	25.31	1201.15	
52.00	**24.97**	**1184.06**	**Best Solution**
53.00	24.63	1189.64	

The first-order model fit is:
Y= 1431.0706 - 4.6080*Q - 0.0184*r

New Q Value	52.00
New r Value	25.66
Max Q Value/ Min Q Value	54/50
Max r Value/ Min r Value	28/24

The second-order model fit is:
Y= 1648.4732-7.2710*Q-6.8810*r-6.7615E-08*Q^2+0.1516*r^2-2.1709E-06*Qr