EXAMPLE 2 : CALL CENTER PROBLEM

1. Consider a Call Center where technical personnel take calls and provide service .
2. Two technical support people (2 server) exits .
   a) Able : more experienced , provides service faster .
   b) Baker : newbie , provides service slower .
3. Rule :
   a) Able gets call if both people are idle .
   b) Try other rules :
      i. Baker gets a call if both are idle .
      ii. Call is assigned randomly to Able and Baker .

Solution :

Notations :
Color - A : Given in question.
Color - A : Has to be calculated .
Color - A : Calculated in previous steps .

1) Inter Arrival Time Distribution

INTER ARRIVAL TIME	PROBABILITY	CUMULATIVE PROBABILITY	RDA
1	0.25	0.25	01-25
2	0.40	0.65	26-65
3	0.20	0.85	66-85
4	0.15	1.00	86-00

2) SERVICE TIME DISTRIBUTION

a) ABLE

SERVICE TIME	PROBABILITY	CUMULATIVE PROBABILITY	RDA
2	0.30	0.30	01-30
3	0.28	0.58	31-58
4	0.25	0.83	59-83
5	0.17	1.00	83-00

b) BAKER

SERVICE TIME	PROBABILITY	CUMULATIVE PROBABILITY	RDA
3	0.35	0.35	01-35
4	0.25	0.60	36-60
5	0.20	0.80	61-80
6	0.20	1.00	81-00

3) ARRIVAL TIME GENERATION BASED ON INTER ARRIVAL TIME

CALLER NUMBER	RDA	IAT	ARRIVAL TIME
1	-	-	0
2	26	2	2
3	98	4	6
4	90	4	10
5	26	2	12
6	42	2	14
7	74	3	17
8	80	3	20
9	68	3	23
10	22	1	24

4) SERVICE TIME GENERATION

CALLER NUMBER	RDA	SERVICE TIME
1	95	5
2	21	3
3	51	3
4	92	5
5	89	6
6	38	3
7	13	2
8	61	4
9	50	4
10	49	3

5) SIMULATION

CNO	IAT	AT	AA	BA	SERVICE CHOSEN	RDA	ST	TIME SERVICE BEGINS	ABLE SERVICE COMPLETE	BAKER SERVICE COMPLETE	CALLER DELAY	TIME IN SYSTEM
1	-	0	0	0	A	95	5	0	5		0	5
2	2	2	5	0	B	21	3	2		5	0	3
3	4	6	5	5	A	51	3	6	9		0	3
4	4	10	9	5	A	92	5	10	15		0	5
5	2	12	15	5	B	89	6	12		18	0	6
6	2	14	15	18	A	38	3	15	18		1	4
7	3	17	18	18	A	13	2	18	20		1	3
8	3	20	20	18	A	61	4	20	24		0	4
9	3	23	2	1	B	50	4	23		27	0	4

			4	8								
10	1	24	24	27	A	49	3	24	27		0	3