Introduction of project3:

For project3 I got 10 different options of serving mode.

Option 0: same as the sample one which is when customer comes, find the sever who is available to sever and begin to serve customers.

Option 1: let the sever take turns to serve customers. This method aim to let every server can serve a similar number of customers which is the real situation in some Chinese restaurant.

Option 2: find available servers to serve and customers have minimum duration are preferred.

Option 3: let the server take turns to serve customers and customers have minimum duration are preferred.

Option 4: find available servers to serve and customers have maximum duration are preferred.

Option 5: let the server take turns to serve customers and customers have maximum duration are preferred.

Option 6: find available servers to serve and customers have longest waiting time preferred.

Option 7: let the server take turns to serve customers and customers have longest waiting time preferred.

Option 8: set a unique server to serve customers who need time over than 10 minutes.

Option 9: set a unique server to serve customers who need time less than 5 minutes.

Notice: in option 8 and option 9, there is more than 2 servers.

After checking several data, the option 2 have the minimum waiting time for customers, so customers have better feeling. Option 4, 5, 7 have the earliest finish time which is good for employees. Set fast lane or special lane can help increase the efficient.

	_				Ontion	1.				
Option 0:					Option 1:					
Sanyan	Customer	Stant	Einich	Wait	Server	Customer	Start	Finish	Wait	
0 0	0	o O	3	Walt 0	0	0	0	3	0	
1	1	2	7	0	1	1	2	7	0	
0	2	4	10	0	2	2	4	10	0	
2	3	5	9	0	0	3	5	9	0	
1	4	7	8	2	1	4	7	8	2	
1	5	8	10	2	2	5	10	12	4	
2	6	9	14	3	0	6	10	15	4	
0	7	10	13	4	1	7	10	13	4	
Total	Wait = 11					Vait = 14				
Average Wait = 1.375000					Average Wait = 1.750000					
Longest Wait = 4					Longest Wait = 4					
Latest Finish = 14					Latest Finish = 15					
Option	2:				Option :	3:				
Option	2:				Option :	3:				
	2: Customer	Start	Finish	Wait		3: Customer	Start	Finish	Wait	
		Start 0	Finish 3	Wait 0			Start 0	Finish 3	Wait 0	
Server	Customer				Server (Customer 0 1				
Server 0	Customer 0	0	3	0	Server (Customer 0 1 2	0	3	0	
Server 0 1	Customer 0 1	0 2	3 7	0 0	Server (Customer 0 1 2 3	0 2 4 11	3 7	0 0	
Server 0 1 0	Customer 0 1 2	0 2 4	3 7 10	0 0 0	Server (0 1 2 0 0	Customer 0 1 2 3 4	0 2 4 11 5	3 7 10 15 6	0 0 0	
Server 0 1 0 2	Customer 0 1 2 3	0 2 4 8	3 7 10 12	0 0 0 3	Server (0 1 2 0	Customer 0 1 2 3	0 2 4 11	3 7 10 15	0 0 0 6	
Server 0 1 0 2 2	Customer 0 1 2 3 4	0 2 4 8 5	3 7 10 12 6	0 0 0 3 0	Server (Customer 0 1 2 3 4	0 2 4 11 5	3 7 10 15 6	0 0 0 6 0	
Server 0 1 0 2 2 2	Customer 0 1 2 3 4 5	0 2 4 8 5 6	3 7 10 12 6 8	0 0 0 3 0	Server (Customer 0 1 2 3 4 5	0 2 4 11 5 7	3 7 10 15 6 9	0 0 0 6 0 1	
Server 0 1 0 2 2 2	Customer 0 1 2 3 4 5	0 2 4 8 5 6 10	3 7 10 12 6 8 15	0 0 3 0 0 4	Server (Oustomer 0 1 2 3 4 5 6 7	0 2 4 11 5 7	3 7 10 15 6 9 17	0 0 6 0 1 6	
Server 0 1 0 2 2 2 2 0	Customer 0 1 2 3 4 5	0 2 4 8 5 6 10	3 7 10 12 6 8 15	0 0 3 0 0 4	Server (Customer 0 1 2 3 4 5	0 2 4 11 5 7	3 7 10 15 6 9 17	0 0 6 0 1 6	
Server 0 1 0 2 2 2 0 1	Customer 0 1 2 3 4 5 6	0 2 4 8 5 6 10 7	3 7 10 12 6 8 15 10	0 0 3 0 0 4	Server (Oustomer 0 1 2 3 4 5 6 7	0 2 4 11 5 7 12 10	3 7 10 15 6 9 17 13	0 0 6 0 1 6	
Server 0 1 0 2 2 2 0 1 Total I	Customer 0 1 2 3 4 5 6 7	0 2 4 8 5 6 10 7	3 7 10 12 6 8 15 10	0 0 3 0 0 4	Server (0 1 2 0 0 1 1 2 Total Wa	Oustomer 0 1 2 3 4 5 6 7	0 2 4 11 5 7 12 10	3 7 10 15 6 9 17 13	0 0 6 0 1 6	

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Option 4:
                                     Option 5:
Server Customer Start Finish Wait
                                     Server Customer Start Finish Wait
           0
                  0
                                0
                                       0
                                                0
                                                       0
                  2
           1
  1
                                0
                                                1
                                                       2
                                       1
                                                                     0
           2
  0
                  4
                         10
                                0
                                        2
                                                2
                                                       4
                                                              10
                                                                     0
                         9
  2
                                0
                                       0
                                                               9
  0
           4
                 12
                         13
                                       1
                                                4
                                                      12
                                                              13
  0
                 10
                         12
                                4
                                       0
                                                      11
                                                              13
  1
           6
                         12
                                1
                                                6
                                                              12
                  9
   2
                         12
                                        2
                                                      10
                                                              13
                                                                     4
Total Wait = 15
                                     Total Wait = 17
Average Wait = 1.875000
                                     Average Wait = 2.125000
Longest Wait = 7
                                     Longest Wait = 7
Latest Finish = 13
                                     Latest Finish = 13
Option 6:
                                    Option 7:
Server Customer Start Finish Wait
                                    Server Customer Start Finish Wait
   0
           0
                  0
                                0
                                               0
                                                      0
                                       0
   1
           1
                   2
                                0
                                       1
                                               1
                                                       2
                                                                   0
   0
           2
                   4
                         10
                                0
                                       2
                                               2
                                                      4
                                                             10
                                                                   0
   2
                          9
                                0
                                       0
                                                                   0
   1
           4
                          8
                                2
                                               4
                                                     12
                                                             13
                                2
   1
                  8
                         10
                                       0
                                                             13
                                                     11
   2
           6
                         14
                                       1
                                               6
                                                             12
                                                                   1
   0
                  10
                         13
                                4
                                       2
                                                     10
                                                             13
                                                                   4
Total Wait = 11
                                     Total Wait = 17
Average Wait = 1.375000
                                     Average Wait = 2.125000
Longest Wait = 4
                                     Longest Wait = 7
Latest Finish = 14
                                     Latest Finish = 13
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Option	8:				Option	9:					
Server	Customer	Start	Finish	Wait	Server	Customer	Start	Finish	Wait		
1	0	0	3	0	0	0	0	3	0		
2	1	2	7	0	1	1	2	7	0		
0	2		10		2	2	4	10	0		
1		5			0	3	5	9	0		
2		7		2	0	4	9	10	4		
2			10		1	5	7	9	1		
	6				1	6	9	14	3		
2	7		13	4	0	7	10	13	4		
Total N	Wait = 11					Wait = 12					
Average	Average Wait = 1.375000					Average Wait = 1.500000					
Longest Wait = 4					Longest Wait = 4						
Latest Finish = 14				Latest Finish = 14							
					~						