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.

```
Option 0:

Server Customer Start Finish Wait
   0       0      0      3     0
   1       1      2      7     0
   0       2      4     10     0
   2       3      5      9     0
   1       4      7      8     2
   1       5      8     10     2
   2       6      9     14     3
   0       7     10     13     4

Total Wait = 11
Average Wait = 1.375000
Longest Wait = 4
Latest Finish = 14
```

```
Option 1:

Server Customer Start Finish Wait
   0       0      0      3     0
   1       1      2      7     0
   2       2      4     10     0
   0       3      5      9     0
   1       4      7      8     2
   2       5     10     12     4
   0       6     10     15     4
   1       7     10     13     4

Total Wait = 14
Average Wait = 1.750000
Longest Wait = 4
Latest Finish = 15
```

```
Option 2:

Server Customer Start Finish Wait
   0       0      0      3     0
   1       1      2      7     0
   0       2      4     10     0
   2       3      8     12     3
   2       4      5      6     0
   2       5      6      8     0
   0       6     10     15     4
   1       7      7     10     1

Total Wait = 8
Average Wait = 1.000000
Longest Wait = 4
Latest Finish = 15
```

```
Option 3:

Server Customer Start Finish Wait
   0       0      0      3     0
   1       1      2      7     0
   2       2      4     10     0
   0       3     11     15     6
   0       4      5      6     0
   1       5      7      9     1
   1       6     12     17     6
   2       7     10     13     4

Total Wait = 17
Average Wait = 2.125000
Longest Wait = 6
Latest Finish = 17
```

```
Option 4:

Server Customer Start Finish Wait
   0       0      0      3     0
   1       1      2      7     0
   0       2      4     10     0
   2       3      5      9     0
   0       4     12     13     7
   0       5     10     12     4
   1       6      7     12     1
   2       7      9     12     3

Total Wait = 15
Average Wait = 1.875000
Longest Wait = 7
Latest Finish = 13
```

```
Option 5:

Server Customer Start Finish Wait
   0       0      0      3     0
   1       1      2      7     0
   2       2      4     10     0
   0       3      5      9     0
   1       4     12     13     7
   0       5     11     13     5
   1       6      7     12     1
   2       7     10     13     4

Total Wait = 17
Average Wait = 2.125000
Longest Wait = 7
Latest Finish = 13
```

```
Option 6:

Server Customer Start Finish Wait
   0       0      0      3     0
   1       1      2      7     0
   0       2      4     10     0
   2       3      5      9     0
   1       4      7      8     2
   1       5      8     10     2
   2       6      9     14     3
   0       7     10     13     4

Total Wait = 11
Average Wait = 1.375000
Longest Wait = 4
Latest Finish = 14
```

```
Option 7:

Server Customer Start Finish Wait
   0       0      0      3     0
   1       1      2      7     0
   2       2      4     10     0
   0       3      5      9     0
   1       4     12     13     7
   0       5     11     13     5
   1       6      7     12     1
   2       7     10     13     4

Total Wait = 17
Average Wait = 2.125000
Longest Wait = 7
Latest Finish = 13
```

```
Option 8:

Server Customer Start Finish Wait
   1        0      0      3     0
   2        1      2      7     0
   0        2      4     10     0
   1        3      5      9     0
   2        4      7      8     2
   2        5      8     10     2
   1        6      9     14     3
   2        7     10     13     4

Total Wait = 11
Average Wait = 1.375000
Longest Wait = 4
Latest Finish = 14
```

```
Option 9:

Server Customer Start Finish Wait
   0        0      0      3     0
   1        1      2      7     0
   2        2      4     10     0
   0        3      5      9     0
   0        4      9     10     4
   1        5      7      9     1
   1        6      9     14     3
   0        7     10     13     4

Total Wait = 12
Average Wait = 1.500000
Longest Wait = 4
Latest Finish = 14
```