1. Estimate the average TTF and number of functional components of the system TTF problem, which should be about 14 and 1.5 respectively.

```
Num of repetitions = 5000, alpha = 0.05
-------------------------------------------------
Mean of estimate TTF: 14.02
Std  of estimate TTF: 11.43
95% confidence interval: [13.7, 14.34]
-------------------------------------------------
Mean of estimate AVG Functional Components: 1.57
Std of estimate AVG Functional Components : 0.13
95% confidence interval: [1.57, 1.57]
```

2. Compare the performance measures estimated using the simulation model developed previously and the values from the formulas of M/M/1 queues in the queueing theory. (Reference URL: https://zh.wikipedia.org/zh-tw/M/M/1)

```
---------------------------------------------------------
MeanInterarrival = 6, MeanService = 4
---------------------------------------------------------
(Theory Results)
Avg System Num  :   2.00
Avg System Time : 12.00
Avg Queue Num   :   1.33
Avg Queue Time  :   8.00
---------------------------------------------------------
Num of repetitions = 100, alpha = 0.05
---------------------------------------------------------
(Simulation Results)
Avg System Num  : mean   2.01 | std 0.11 | 95% confidence interval [ 1.99,  2.03]
Avg System Time : mean  12.04 | std 0.59 | 95% confidence interval [11.93, 12.16]
Avg Queue Num   : mean   1.34 | std 0.10 | 95% confidence interval [ 1.32,  1.36]
Avg Queue Time  : mean   8.04 | std 0.56 | 95% confidence interval [ 7.93,  8.15]
---------------------------------------------------------
MeanInterarrival = 6, MeanService = 3
---------------------------------------------------------
(Theory Results)
Avg System Num  :   1.00
Avg System Time :   6.00
Avg Queue Num   :   0.50
Avg Queue Time  :   3.00
---------------------------------------------------------
Num of repetitions = 100, alpha = 0.05
---------------------------------------------------------
(Simulation Results)
Avg System Num  : mean   1.00 | std 0.03 | 95% confidence interval [ 1.00,  1.01]
Avg System Time : mean   6.02 | std 0.18 | 95% confidence interval [ 5.99,  6.06]
Avg Queue Num   : mean   0.50 | std 0.03 | 95% confidence interval [ 0.50,  0.51]
Avg Queue Time  : mean   3.02 | std 0.16 | 95% confidence interval [ 2.99,  3.05]
---------------------------------------------------------
MeanInterarrival = 6, MeanService = 5
---------------------------------------------------------
(Theory Results)
Avg System Num  :   5.00
Avg System Time :  30.00
Avg Queue Num   :   4.17
Avg Queue Time  :  25.00
---------------------------------------------------------
Num of repetitions = 100, alpha = 0.05
---------------------------------------------------------
(Simulation Results)
Avg System Num  : mean   4.97 | std 0.55 | 95% confidence interval [ 4.87,  5.08]
Avg System Time : mean  29.81 | std 3.19 | 95% confidence interval [29.18, 30.44]
Avg Queue Num   : mean   4.14 | std 0.55 | 95% confidence interval [ 4.03,  4.25]
Avg Queue Time  : mean  24.81 | std 3.16 | 95% confidence interval [24.19, 25.43]
```

```
----------------------------------------------------------
MeanInterarrival = 6, MeanService = 6
----------------------------------------------------------
Num of repetitions = 100, alpha = 0.05
----------------------------------------------------------
(Simulation Results)
Avg System Num  : mean 74.28 | std 40.25 | 95% confidence interval [66.39, 82.17]
Avg System Time : mean 444.48 | std 238.43 | 95% confidence interval [397.74, 491.21]
Avg Queue Num   : mean 73.29 | std 40.24 | 95% confidence interval [65.41, 81.18]
Avg Queue Time  : mean 438.50 | std 238.41 | 95% confidence interval [391.77, 485.23]


----------------------------------------------------------
MeanInterarrival = 3, MeanService = 6
----------------------------------------------------------
Num of repetitions = 100, alpha = 0.05
----------------------------------------------------------
(Simulation Results)
Avg System Num  : mean 4587.27 | std 90.26 | 95% confidence interval [4569.58, 4604.97]
Avg System Time : mean 13754.48 | std 263.61 | 95% confidence interval [13702.81, 13806.15]
Avg Queue Num   : mean 4586.27 | std 90.26 | 95% confidence interval [4568.58, 4603.97]
Avg Queue Time  : mean 13749.98 | std 263.59 | 95% confidence interval [13698.32, 13801.64]
```