

MBA643A: Homework – 1

Provided on: 30 August 2022

The data given below is the detailed calendar output from a simulation run of a single server system operating on FIFO queue discipline. The computer programmer who created the simulation did not provide any documentation and hence no details are available about the simulation data. You are expected to figure it out. The simulation was run for duration of 1440 minutes. The major events in the simulation include CreateEnd – representing an arrival of an entity into the system, ServeBegin – beginning of service of an entity, ServeEnd – completion of service of an entity, and simBegin – is the pseudo entity that marks the beginning of the simulation. The first arrival does not occur at time $t = 0$. Using this information, answer the following questions.

1. What is the total number of arrivals in the system?
2. What is the total number of entities that have completed the service and left the system?
3. What is the status of the server when the simulation was stopped?
4. What is the average entity time in the system?
5. What is the average number in the system?
6. Graph the time in the system for individual entities whose service is completed.
7. What is the variance of the entity time in the system?
8. Construct a 90%, 95%, and 99% confidence interval on the entity time in the system. Compare the confidence intervals and summarize your observations.
9. What is the server utilization estimate from the simulation data?
10. Graph the individual values for the Time Between Arrivals (TBA) of the entities of this simulation models. What can you conclude from the graph?
11. Construct a frequency distribution using the TBA values and using the data create the histogram. What can you conclude now?
12. What is the average queue length of the system that is being simulated?
13. What is the average waiting time of entities in the system queue?
14. Graph the time dependent status of the server depicting when the server was busy and when the server was idle. You can denote busy status by 1 and idle status by 0.

You are expected to complete the homework assignment before 6:00 PM of 5 February 2018. You are not required to submit the assignment.

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|----|----------------|-------------|----------------------------|
| At | 0.00, Entity: | 1, -99.000, | 1.000, simBegin |
| At | 2.67, Entity: | 1, 2.666, | 0.000, CreateEnd (Arrival) |
| At | 2.67, Entity: | 1, 2.666, | 0.000, ServeBegin |
| At | 13.11, Entity: | 1, 2.666, | 0.000, ServeEnd |
| At | 42.79, Entity: | 2, 42.790, | 0.000, CreateEnd (Arrival) |
| At | 42.79, Entity: | 2, 42.790, | 0.000, ServeBegin |
| At | 51.03, Entity: | 2, 42.790, | 0.000, ServeEnd |
| At | 53.76, Entity: | 3, 53.759, | 0.000, CreateEnd (Arrival) |
| At | 53.76, Entity: | 3, 53.759, | 0.000, ServeBegin |
| At | 65.34, Entity: | 3, 53.759, | 0.000, ServeEnd |
| At | 67.43, Entity: | 4, 67.427, | 0.000, CreateEnd (Arrival) |
| At | 67.43, Entity: | 4, 67.427, | 0.000, ServeBegin |
| At | 70.00, Entity: | 5, 70.001, | 0.000, CreateEnd (Arrival) |
| At | 75.95, Entity: | 4, 67.427, | 0.000, ServeEnd |

At 75.95, Entity: 5, 70.001, 0.000, ServeBegin
At 86.55, Entity: 5, 70.001, 0.000, ServeEnd
At 105.73, Entity: 6, 105.728, 0.000, CreateEnd (Arrival)
At 105.73, Entity: 6, 105.728, 0.000, ServeBegin
At 110.86, Entity: 7, 110.861, 0.000, CreateEnd (Arrival)
At 113.92, Entity: 8, 113.923, 0.000, CreateEnd (Arrival)
At 116.61, Entity: 6, 105.728, 0.000, ServeEnd
At 116.61, Entity: 7, 110.861, 0.000, ServeBegin
At 125.15, Entity: 7, 110.861, 0.000, ServeEnd
At 125.15, Entity: 8, 113.923, 0.000, ServeBegin
At 126.48, Entity: 9, 126.479, 0.000, CreateEnd (Arrival)
At 133.61, Entity: 10, 133.608, 0.000, CreateEnd (Arrival)
At 134.75, Entity: 8, 113.923, 0.000, ServeEnd
At 134.75, Entity: 9, 126.479, 0.000, ServeBegin
At 134.96, Entity: 11, 134.965, 0.000, CreateEnd (Arrival)
At 143.48, Entity: 9, 126.479, 0.000, ServeEnd
At 143.48, Entity: 10, 133.608, 0.000, ServeBegin
At 143.71, Entity: 12, 143.706, 0.000, CreateEnd (Arrival)
At 152.22, Entity: 10, 133.608, 0.000, ServeEnd
At 152.22, Entity: 11, 134.965, 0.000, ServeBegin
At 160.25, Entity: 13, 160.254, 0.000, CreateEnd (Arrival)
At 163.78, Entity: 11, 134.965, 0.000, ServeEnd
At 163.78, Entity: 12, 143.706, 0.000, ServeBegin
At 168.55, Entity: 14, 168.549, 0.000, CreateEnd (Arrival)
At 168.80, Entity: 15, 168.798, 0.000, CreateEnd (Arrival)
At 172.25, Entity: 12, 143.706, 0.000, ServeEnd
At 172.25, Entity: 13, 160.254, 0.000, ServeBegin
At 175.89, Entity: 16, 175.888, 0.000, CreateEnd (Arrival)
At 182.30, Entity: 17, 182.302, 0.000, CreateEnd (Arrival)
At 183.72, Entity: 18, 183.723, 0.000, CreateEnd (Arrival)
At 183.74, Entity: 13, 160.254, 0.000, ServeEnd
At 183.74, Entity: 14, 168.549, 0.000, ServeBegin
At 183.99, Entity: 19, 183.986, 0.000, CreateEnd (Arrival)
At 191.53, Entity: 20, 191.535, 0.000, CreateEnd (Arrival)
At 194.49, Entity: 14, 168.549, 0.000, ServeEnd
At 194.49, Entity: 15, 168.798, 0.000, ServeBegin
At 199.28, Entity: 21, 199.279, 0.000, CreateEnd (Arrival)
At 205.44, Entity: 15, 168.798, 0.000, ServeEnd
At 205.44, Entity: 16, 175.888, 0.000, ServeBegin
At 209.70, Entity: 22, 209.705, 0.000, CreateEnd (Arrival)
At 215.65, Entity: 16, 175.888, 0.000, ServeEnd
At 215.65, Entity: 17, 182.302, 0.000, ServeBegin
At 223.93, Entity: 17, 182.302, 0.000, ServeEnd
At 223.93, Entity: 18, 183.723, 0.000, ServeBegin
At 234.25, Entity: 18, 183.723, 0.000, ServeEnd
At 234.25, Entity: 19, 183.986, 0.000, ServeBegin
At 239.11, Entity: 23, 239.111, 0.000, CreateEnd (Arrival)
At 245.85, Entity: 19, 183.986, 0.000, ServeEnd
At 245.85, Entity: 20, 191.535, 0.000, ServeBegin
At 256.93, Entity: 20, 191.535, 0.000, ServeEnd

At 256.93, Entity: 21, 199.279, 0.000, ServeBegin
At 259.33, Entity: 24, 259.326, 0.000, CreateEnd (Arrival)
At 259.33, Entity: 25, 259.331, 0.000, CreateEnd (Arrival)
At 265.27, Entity: 26, 265.269, 0.000, CreateEnd (Arrival)
At 265.81, Entity: 27, 265.811, 0.000, CreateEnd (Arrival)
At 267.08, Entity: 21, 199.279, 0.000, ServeEnd
At 267.08, Entity: 22, 209.705, 0.000, ServeBegin
At 276.94, Entity: 22, 209.705, 0.000, ServeEnd
At 276.94, Entity: 23, 239.111, 0.000, ServeBegin
At 286.17, Entity: 23, 239.111, 0.000, ServeEnd
At 286.17, Entity: 24, 259.326, 0.000, ServeBegin
At 295.53, Entity: 24, 259.326, 0.000, ServeEnd
At 295.53, Entity: 25, 259.331, 0.000, ServeBegin
At 296.03, Entity: 28, 296.030, 0.000, CreateEnd (Arrival)
At 306.78, Entity: 25, 259.331, 0.000, ServeEnd
At 306.78, Entity: 26, 265.269, 0.000, ServeBegin
At 308.75, Entity: 29, 308.752, 0.000, CreateEnd (Arrival)
At 316.78, Entity: 26, 265.269, 0.000, ServeEnd
At 316.78, Entity: 27, 265.811, 0.000, ServeBegin
At 320.97, Entity: 30, 320.966, 0.000, CreateEnd (Arrival)
At 328.71, Entity: 27, 265.811, 0.000, ServeEnd
At 328.71, Entity: 28, 296.030, 0.000, ServeBegin
At 336.80, Entity: 28, 296.030, 0.000, ServeEnd
At 336.80, Entity: 29, 308.752, 0.000, ServeBegin
At 348.72, Entity: 29, 308.752, 0.000, ServeEnd
At 348.72, Entity: 30, 320.966, 0.000, ServeBegin
At 356.76, Entity: 30, 320.966, 0.000, ServeEnd
At 363.98, Entity: 31, 363.985, 0.000, CreateEnd (Arrival)
At 363.98, Entity: 31, 363.985, 0.000, ServeBegin
At 373.56, Entity: 31, 363.985, 0.000, ServeEnd
At 376.49, Entity: 32, 376.487, 0.000, CreateEnd (Arrival)
At 376.49, Entity: 32, 376.487, 0.000, ServeBegin
At 378.33, Entity: 33, 378.327, 0.000, CreateEnd (Arrival)
At 385.25, Entity: 32, 376.487, 0.000, ServeEnd
At 385.25, Entity: 33, 378.327, 0.000, ServeBegin
At 385.46, Entity: 34, 385.458, 0.000, CreateEnd (Arrival)
At 386.25, Entity: 35, 386.253, 0.000, CreateEnd (Arrival)
At 389.23, Entity: 36, 389.231, 0.000, CreateEnd (Arrival)
At 393.62, Entity: 33, 378.327, 0.000, ServeEnd
At 393.62, Entity: 34, 385.458, 0.000, ServeBegin
At 403.19, Entity: 34, 385.458, 0.000, ServeEnd
At 403.19, Entity: 35, 386.253, 0.000, ServeBegin
At 412.21, Entity: 35, 386.253, 0.000, ServeEnd
At 412.21, Entity: 36, 389.231, 0.000, ServeBegin
At 423.88, Entity: 36, 389.231, 0.000, ServeEnd
At 438.01, Entity: 37, 438.013, 0.000, CreateEnd (Arrival)
At 438.01, Entity: 37, 438.013, 0.000, ServeBegin
At 438.20, Entity: 38, 438.196, 0.000, CreateEnd (Arrival)
At 443.77, Entity: 39, 443.774, 0.000, CreateEnd (Arrival)
At 449.54, Entity: 37, 438.013, 0.000, ServeEnd

At 449.54, Entity: 38, 438.196, 0.000, ServeBegin
At 461.47, Entity: 38, 438.196, 0.000, ServeEnd
At 461.47, Entity: 39, 443.774, 0.000, ServeBegin
At 464.01, Entity: 40, 464.014, 0.000, CreateEnd (Arrival)
At 472.11, Entity: 39, 443.774, 0.000, ServeEnd
At 472.11, Entity: 40, 464.014, 0.000, ServeBegin
At 473.43, Entity: 41, 473.431, 0.000, CreateEnd (Arrival)
At 480.78, Entity: 40, 464.014, 0.000, ServeEnd
At 480.78, Entity: 41, 473.431, 0.000, ServeBegin
At 488.09, Entity: 42, 488.092, 0.000, CreateEnd (Arrival)
At 492.53, Entity: 41, 473.431, 0.000, ServeEnd
At 492.53, Entity: 42, 488.092, 0.000, ServeBegin
At 498.45, Entity: 43, 498.451, 0.000, CreateEnd (Arrival)
At 499.10, Entity: 44, 499.101, 0.000, CreateEnd (Arrival)
At 501.30, Entity: 45, 501.301, 0.000, CreateEnd (Arrival)
At 504.51, Entity: 42, 488.092, 0.000, ServeEnd
At 504.51, Entity: 43, 498.451, 0.000, ServeBegin
At 509.26, Entity: 46, 509.262, 0.000, CreateEnd (Arrival)
At 511.20, Entity: 47, 511.205, 0.000, CreateEnd (Arrival)
At 513.35, Entity: 48, 513.351, 0.000, CreateEnd (Arrival)
At 516.19, Entity: 43, 498.451, 0.000, ServeEnd
At 516.19, Entity: 44, 499.101, 0.000, ServeBegin
At 524.62, Entity: 44, 499.101, 0.000, ServeEnd
At 524.62, Entity: 45, 501.301, 0.000, ServeBegin
At 534.08, Entity: 45, 501.301, 0.000, ServeEnd
At 534.08, Entity: 46, 509.262, 0.000, ServeBegin
At 545.80, Entity: 46, 509.262, 0.000, ServeEnd
At 545.80, Entity: 47, 511.205, 0.000, ServeBegin
At 549.05, Entity: 49, 549.050, 0.000, CreateEnd (Arrival)
At 554.97, Entity: 47, 511.205, 0.000, ServeEnd
At 554.97, Entity: 48, 513.351, 0.000, ServeBegin
At 559.80, Entity: 50, 559.803, 0.000, CreateEnd (Arrival)
At 563.76, Entity: 48, 513.351, 0.000, ServeEnd
At 563.76, Entity: 49, 549.050, 0.000, ServeBegin
At 570.79, Entity: 51, 570.791, 0.000, CreateEnd (Arrival)
At 575.23, Entity: 49, 549.050, 0.000, ServeEnd
At 575.23, Entity: 50, 559.803, 0.000, ServeBegin
At 578.63, Entity: 52, 578.629, 0.000, CreateEnd (Arrival)
At 587.08, Entity: 50, 559.803, 0.000, ServeEnd
At 587.08, Entity: 51, 570.791, 0.000, ServeBegin
At 599.01, Entity: 51, 570.791, 0.000, ServeEnd
At 599.01, Entity: 52, 578.629, 0.000, ServeBegin
At 600.72, Entity: 53, 600.720, 0.000, CreateEnd (Arrival)
At 601.09, Entity: 54, 601.089, 0.000, CreateEnd (Arrival)
At 602.67, Entity: 55, 602.667, 0.000, CreateEnd (Arrival)
At 604.80, Entity: 56, 604.801, 0.000, CreateEnd (Arrival)
At 606.75, Entity: 57, 606.751, 0.000, CreateEnd (Arrival)
At 609.05, Entity: 58, 609.051, 0.000, CreateEnd (Arrival)
At 610.33, Entity: 52, 578.629, 0.000, ServeEnd
At 610.33, Entity: 53, 600.720, 0.000, ServeBegin

At 621.87, Entity: 53, 600.720, 0.000, ServeEnd
At 621.87, Entity: 54, 601.089, 0.000, ServeBegin
At 631.54, Entity: 59, 631.538, 0.000, CreateEnd (Arrival)
At 631.83, Entity: 54, 601.089, 0.000, ServeEnd
At 631.83, Entity: 55, 602.667, 0.000, ServeBegin
At 635.28, Entity: 60, 635.277, 0.000, CreateEnd (Arrival)
At 637.39, Entity: 61, 637.388, 0.000, CreateEnd (Arrival)
At 640.45, Entity: 62, 640.450, 0.000, CreateEnd (Arrival)
At 640.86, Entity: 63, 640.860, 0.000, CreateEnd (Arrival)
At 642.30, Entity: 64, 642.305, 0.000, CreateEnd (Arrival)
At 642.76, Entity: 55, 602.667, 0.000, ServeEnd
At 642.76, Entity: 56, 604.801, 0.000, ServeBegin
At 650.91, Entity: 56, 604.801, 0.000, ServeEnd
At 650.91, Entity: 57, 606.751, 0.000, ServeBegin
At 654.34, Entity: 65, 654.344, 0.000, CreateEnd (Arrival)
At 659.58, Entity: 66, 659.581, 0.000, CreateEnd (Arrival)
At 660.51, Entity: 57, 606.751, 0.000, ServeEnd
At 660.51, Entity: 58, 609.051, 0.000, ServeBegin
At 661.55, Entity: 67, 661.550, 0.000, CreateEnd (Arrival)
At 663.74, Entity: 68, 663.736, 0.000, CreateEnd (Arrival)
At 672.17, Entity: 58, 609.051, 0.000, ServeEnd
At 672.17, Entity: 59, 631.538, 0.000, ServeBegin
At 680.34, Entity: 69, 680.340, 0.000, CreateEnd (Arrival)
At 682.07, Entity: 59, 631.538, 0.000, ServeEnd
At 682.07, Entity: 60, 635.277, 0.000, ServeBegin
At 685.39, Entity: 70, 685.390, 0.000, CreateEnd (Arrival)
At 692.47, Entity: 60, 635.277, 0.000, ServeEnd
At 692.47, Entity: 61, 637.388, 0.000, ServeBegin
At 694.24, Entity: 71, 694.236, 0.000, CreateEnd (Arrival)
At 697.30, Entity: 72, 697.298, 0.000, CreateEnd (Arrival)
At 700.86, Entity: 73, 700.861, 0.000, CreateEnd (Arrival)
At 703.91, Entity: 61, 637.388, 0.000, ServeEnd
At 703.91, Entity: 62, 640.450, 0.000, ServeBegin
At 715.00, Entity: 62, 640.450, 0.000, ServeEnd
At 715.00, Entity: 63, 640.860, 0.000, ServeBegin
At 717.51, Entity: 74, 717.511, 0.000, CreateEnd (Arrival)
At 720.57, Entity: 75, 720.571, 0.000, CreateEnd (Arrival)
At 723.04, Entity: 63, 640.860, 0.000, ServeEnd
At 723.04, Entity: 64, 642.305, 0.000, ServeBegin
At 726.35, Entity: 76, 726.355, 0.000, CreateEnd (Arrival)
At 728.85, Entity: 77, 728.853, 0.000, CreateEnd (Arrival)
At 733.21, Entity: 64, 642.305, 0.000, ServeEnd
At 733.21, Entity: 65, 654.344, 0.000, ServeBegin
At 733.72, Entity: 78, 733.721, 0.000, CreateEnd (Arrival)
At 741.46, Entity: 79, 741.462, 0.000, CreateEnd (Arrival)
At 742.89, Entity: 80, 742.887, 0.000, CreateEnd (Arrival)
At 743.28, Entity: 81, 743.277, 0.000, CreateEnd (Arrival)
At 745.19, Entity: 65, 654.344, 0.000, ServeEnd
At 745.19, Entity: 66, 659.581, 0.000, ServeBegin
At 749.29, Entity: 82, 749.290, 0.000, CreateEnd (Arrival)

At 757.02, Entity: 66, 659.581, 0.000, ServeEnd
At 757.02, Entity: 67, 661.550, 0.000, ServeBegin
At 765.15, Entity: 67, 661.550, 0.000, ServeEnd
At 765.15, Entity: 68, 663.736, 0.000, ServeBegin
At 774.35, Entity: 83, 774.351, 0.000, CreateEnd (Arrival)
At 774.83, Entity: 68, 663.736, 0.000, ServeEnd
At 774.83, Entity: 69, 680.340, 0.000, ServeBegin
At 776.82, Entity: 84, 776.823, 0.000, CreateEnd (Arrival)
At 779.30, Entity: 85, 779.298, 0.000, CreateEnd (Arrival)
At 784.43, Entity: 69, 680.340, 0.000, ServeEnd
At 784.43, Entity: 70, 685.390, 0.000, ServeBegin
At 786.66, Entity: 86, 786.658, 0.000, CreateEnd (Arrival)
At 793.11, Entity: 70, 685.390, 0.000, ServeEnd
At 793.11, Entity: 71, 694.236, 0.000, ServeBegin
At 794.76, Entity: 87, 794.762, 0.000, CreateEnd (Arrival)
At 804.70, Entity: 71, 694.236, 0.000, ServeEnd
At 804.70, Entity: 72, 697.298, 0.000, ServeBegin
At 809.23, Entity: 88, 809.227, 0.000, CreateEnd (Arrival)
At 811.49, Entity: 89, 811.495, 0.000, CreateEnd (Arrival)
At 811.96, Entity: 90, 811.960, 0.000, CreateEnd (Arrival)
At 813.57, Entity: 91, 813.572, 0.000, CreateEnd (Arrival)
At 814.97, Entity: 72, 697.298, 0.000, ServeEnd
At 814.97, Entity: 73, 700.861, 0.000, ServeBegin
At 826.55, Entity: 73, 700.861, 0.000, ServeEnd
At 826.55, Entity: 74, 717.511, 0.000, ServeBegin
At 830.99, Entity: 92, 830.994, 0.000, CreateEnd (Arrival)
At 836.65, Entity: 74, 717.511, 0.000, ServeEnd
At 836.65, Entity: 75, 720.571, 0.000, ServeBegin
At 843.93, Entity: 93, 843.935, 0.000, CreateEnd (Arrival)
At 844.94, Entity: 94, 844.943, 0.000, CreateEnd (Arrival)
At 845.15, Entity: 75, 720.571, 0.000, ServeEnd
At 845.15, Entity: 76, 726.355, 0.000, ServeBegin
At 854.88, Entity: 76, 726.355, 0.000, ServeEnd
At 854.88, Entity: 77, 728.853, 0.000, ServeBegin
At 859.83, Entity: 95, 859.832, 0.000, CreateEnd (Arrival)
At 860.24, Entity: 96, 860.236, 0.000, CreateEnd (Arrival)
At 863.76, Entity: 97, 863.757, 0.000, CreateEnd (Arrival)
At 864.35, Entity: 77, 728.853, 0.000, ServeEnd
At 864.35, Entity: 78, 733.721, 0.000, ServeBegin
At 873.42, Entity: 78, 733.721, 0.000, ServeEnd
At 873.42, Entity: 79, 741.462, 0.000, ServeBegin
At 883.03, Entity: 98, 883.026, 0.000, CreateEnd (Arrival)
At 883.84, Entity: 79, 741.462, 0.000, ServeEnd
At 883.84, Entity: 80, 742.887, 0.000, ServeBegin
At 887.62, Entity: 99, 887.624, 0.000, CreateEnd (Arrival)
At 893.33, Entity: 80, 742.887, 0.000, ServeEnd
At 893.33, Entity: 81, 743.277, 0.000, ServeBegin
At 894.07, Entity: 100, 894.075, 0.000, CreateEnd (Arrival)
At 901.99, Entity: 81, 743.277, 0.000, ServeEnd
At 901.99, Entity: 82, 749.290, 0.000, ServeBegin

At 906.91, Entity: 101, 906.912, 0.000, CreateEnd (Arrival)
At 909.67, Entity: 102, 909.674, 0.000, CreateEnd (Arrival)
At 911.09, Entity: 103, 911.087, 0.000, CreateEnd (Arrival)
At 912.92, Entity: 82, 749.290, 0.000, ServeEnd
At 912.92, Entity: 83, 774.351, 0.000, ServeBegin
At 920.84, Entity: 104, 920.837, 0.000, CreateEnd (Arrival)
At 922.14, Entity: 83, 774.351, 0.000, ServeEnd
At 922.14, Entity: 84, 776.823, 0.000, ServeBegin
At 926.89, Entity: 105, 926.888, 0.000, CreateEnd (Arrival)
At 929.87, Entity: 106, 929.872, 0.000, CreateEnd (Arrival)
At 932.39, Entity: 84, 776.823, 0.000, ServeEnd
At 932.39, Entity: 85, 779.298, 0.000, ServeBegin
At 944.01, Entity: 85, 779.298, 0.000, ServeEnd
At 944.01, Entity: 86, 786.658, 0.000, ServeBegin
At 946.95, Entity: 107, 946.948, 0.000, CreateEnd (Arrival)
At 952.98, Entity: 108, 952.981, 0.000, CreateEnd (Arrival)
At 953.92, Entity: 86, 786.658, 0.000, ServeEnd
At 953.92, Entity: 87, 794.762, 0.000, ServeBegin
At 961.95, Entity: 87, 794.762, 0.000, ServeEnd
At 961.95, Entity: 88, 809.227, 0.000, ServeBegin
At 962.97, Entity: 109, 962.969, 0.000, CreateEnd (Arrival)
At 964.28, Entity: 110, 964.279, 0.000, CreateEnd (Arrival)
At 967.77, Entity: 111, 967.772, 0.000, CreateEnd (Arrival)
At 972.21, Entity: 88, 809.227, 0.000, ServeEnd
At 972.21, Entity: 89, 811.495, 0.000, ServeBegin
At 983.39, Entity: 89, 811.495, 0.000, ServeEnd
At 983.39, Entity: 90, 811.960, 0.000, ServeBegin
At 985.71, Entity: 112, 985.715, 0.000, CreateEnd (Arrival)
At 994.16, Entity: 113, 994.163, 0.000, CreateEnd (Arrival)
At 994.90, Entity: 90, 811.960, 0.000, ServeEnd
At 994.90, Entity: 91, 813.572, 0.000, ServeBegin
At 995.26, Entity: 114, 995.264, 0.000, CreateEnd (Arrival)
At 997.05, Entity: 115, 997.049, 0.000, CreateEnd (Arrival)
At 1004.29, Entity: 91, 813.572, 0.000, ServeEnd
At 1004.29, Entity: 92, 830.994, 0.000, ServeBegin
At 1005.55, Entity: 116, 1005.552, 0.000, CreateEnd (Arrival)
At 1011.32, Entity: 117, 1011.321, 0.000, CreateEnd (Arrival)
At 1016.25, Entity: 92, 830.994, 0.000, ServeEnd
At 1016.25, Entity: 93, 843.935, 0.000, ServeBegin
At 1026.12, Entity: 93, 843.935, 0.000, ServeEnd
At 1026.12, Entity: 94, 844.943, 0.000, ServeBegin
At 1034.31, Entity: 94, 844.943, 0.000, ServeEnd
At 1034.31, Entity: 95, 859.832, 0.000, ServeBegin
At 1043.74, Entity: 95, 859.832, 0.000, ServeEnd
At 1043.74, Entity: 96, 860.236, 0.000, ServeBegin
At 1053.30, Entity: 96, 860.236, 0.000, ServeEnd
At 1053.30, Entity: 97, 863.757, 0.000, ServeBegin
At 1058.75, Entity: 118, 1058.746, 0.000, CreateEnd (Arrival)
At 1064.21, Entity: 119, 1064.209, 0.000, CreateEnd (Arrival)
At 1064.65, Entity: 97, 863.757, 0.000, ServeEnd

At 1064.65, Entity: 98, 883.026, 0.000, ServeBegin
At 1076.09, Entity: 98, 883.026, 0.000, ServeEnd
At 1076.09, Entity: 99, 887.624, 0.000, ServeBegin
At 1079.32, Entity: 120, 1079.320, 0.000, CreateEnd (Arrival)
At 1085.75, Entity: 121, 1085.747, 0.000, CreateEnd (Arrival)
At 1086.15, Entity: 99, 887.624, 0.000, ServeEnd
At 1086.15, Entity: 100, 894.075, 0.000, ServeBegin
At 1092.29, Entity: 122, 1092.291, 0.000, CreateEnd (Arrival)
At 1095.31, Entity: 100, 894.075, 0.000, ServeEnd
At 1095.31, Entity: 101, 906.912, 0.000, ServeBegin
At 1096.82, Entity: 123, 1096.820, 0.000, CreateEnd (Arrival)
At 1105.17, Entity: 101, 906.912, 0.000, ServeEnd
At 1105.17, Entity: 102, 909.674, 0.000, ServeBegin
At 1111.93, Entity: 124, 1111.927, 0.000, CreateEnd (Arrival)
At 1113.27, Entity: 102, 909.674, 0.000, ServeEnd
At 1113.27, Entity: 103, 911.087, 0.000, ServeBegin
At 1115.81, Entity: 125, 1115.814, 0.000, CreateEnd (Arrival)
At 1117.02, Entity: 126, 1117.020, 0.000, CreateEnd (Arrival)
At 1123.11, Entity: 103, 911.087, 0.000, ServeEnd
At 1123.11, Entity: 104, 920.837, 0.000, ServeBegin
At 1123.22, Entity: 127, 1123.219, 0.000, CreateEnd (Arrival)
At 1131.92, Entity: 128, 1131.918, 0.000, CreateEnd (Arrival)
At 1131.93, Entity: 104, 920.837, 0.000, ServeEnd
At 1131.93, Entity: 105, 926.888, 0.000, ServeBegin
At 1134.20, Entity: 129, 1134.196, 0.000, CreateEnd (Arrival)
At 1141.42, Entity: 105, 926.888, 0.000, ServeEnd
At 1141.42, Entity: 106, 929.872, 0.000, ServeBegin
At 1152.23, Entity: 106, 929.872, 0.000, ServeEnd
At 1152.23, Entity: 107, 946.948, 0.000, ServeBegin
At 1152.94, Entity: 130, 1152.940, 0.000, CreateEnd (Arrival)
At 1153.29, Entity: 131, 1153.287, 0.000, CreateEnd (Arrival)
At 1163.06, Entity: 107, 946.948, 0.000, ServeEnd
At 1163.06, Entity: 108, 952.981, 0.000, ServeBegin
At 1172.45, Entity: 132, 1172.453, 0.000, CreateEnd (Arrival)
At 1173.11, Entity: 108, 952.981, 0.000, ServeEnd
At 1173.11, Entity: 109, 962.969, 0.000, ServeBegin
At 1179.68, Entity: 133, 1179.679, 0.000, CreateEnd (Arrival)
At 1184.78, Entity: 109, 962.969, 0.000, ServeEnd
At 1184.78, Entity: 110, 964.279, 0.000, ServeBegin
At 1195.77, Entity: 110, 964.279, 0.000, ServeEnd
At 1195.77, Entity: 111, 967.772, 0.000, ServeBegin
At 1196.26, Entity: 134, 1196.258, 0.000, CreateEnd (Arrival)
At 1207.34, Entity: 111, 967.772, 0.000, ServeEnd
At 1207.34, Entity: 112, 985.715, 0.000, ServeBegin
At 1211.33, Entity: 135, 1211.333, 0.000, CreateEnd (Arrival)
At 1215.51, Entity: 112, 985.715, 0.000, ServeEnd
At 1215.51, Entity: 113, 994.163, 0.000, ServeBegin
At 1220.62, Entity: 136, 1220.617, 0.000, CreateEnd (Arrival)
At 1223.26, Entity: 137, 1223.265, 0.000, CreateEnd (Arrival)
At 1225.75, Entity: 113, 994.163, 0.000, ServeEnd

At 1225.75, Entity: 114, 995.264, 0.000, ServeBegin
At 1234.70, Entity: 114, 995.264, 0.000, ServeEnd
At 1234.70, Entity: 115, 997.049, 0.000, ServeBegin
At 1240.38, Entity: 138, 1240.379, 0.000, CreateEnd (Arrival)
At 1245.67, Entity: 115, 997.049, 0.000, ServeEnd
At 1245.67, Entity: 116, 1005.552, 0.000, ServeBegin
At 1255.86, Entity: 116, 1005.552, 0.000, ServeEnd
At 1255.86, Entity: 117, 1011.321, 0.000, ServeBegin
At 1266.74, Entity: 117, 1011.321, 0.000, ServeEnd
At 1266.74, Entity: 118, 1058.746, 0.000, ServeBegin
At 1276.56, Entity: 118, 1058.746, 0.000, ServeEnd
At 1276.56, Entity: 119, 1064.209, 0.000, ServeBegin
At 1284.71, Entity: 119, 1064.209, 0.000, ServeEnd
At 1284.71, Entity: 120, 1079.320, 0.000, ServeBegin
At 1291.33, Entity: 139, 1291.331, 0.000, CreateEnd (Arrival)
At 1293.33, Entity: 120, 1079.320, 0.000, ServeEnd
At 1293.33, Entity: 121, 1085.747, 0.000, ServeBegin
At 1296.99, Entity: 140, 1296.987, 0.000, CreateEnd (Arrival)
At 1301.81, Entity: 121, 1085.747, 0.000, ServeEnd
At 1301.81, Entity: 122, 1092.291, 0.000, ServeBegin
At 1312.18, Entity: 122, 1092.291, 0.000, ServeEnd
At 1312.18, Entity: 123, 1096.820, 0.000, ServeBegin
At 1316.09, Entity: 141, 1316.087, 0.000, CreateEnd (Arrival)
At 1321.70, Entity: 142, 1321.700, 0.000, CreateEnd (Arrival)
At 1324.00, Entity: 123, 1096.820, 0.000, ServeEnd
At 1324.00, Entity: 124, 1111.927, 0.000, ServeBegin
At 1332.81, Entity: 124, 1111.927, 0.000, ServeEnd
At 1332.81, Entity: 125, 1115.814, 0.000, ServeBegin
At 1337.15, Entity: 143, 1337.148, 0.000, CreateEnd (Arrival)
At 1340.99, Entity: 125, 1115.814, 0.000, ServeEnd
At 1340.99, Entity: 126, 1117.020, 0.000, ServeBegin
At 1347.26, Entity: 144, 1347.257, 0.000, CreateEnd (Arrival)
At 1348.60, Entity: 145, 1348.597, 0.000, CreateEnd (Arrival)
At 1349.21, Entity: 126, 1117.020, 0.000, ServeEnd
At 1349.21, Entity: 127, 1123.219, 0.000, ServeBegin
At 1355.12, Entity: 146, 1355.121, 0.000, CreateEnd (Arrival)
At 1358.41, Entity: 127, 1123.219, 0.000, ServeEnd
At 1358.41, Entity: 128, 1131.918, 0.000, ServeBegin
At 1366.68, Entity: 128, 1131.918, 0.000, ServeEnd
At 1366.68, Entity: 129, 1134.196, 0.000, ServeBegin
At 1374.81, Entity: 129, 1134.196, 0.000, ServeEnd
At 1374.81, Entity: 130, 1152.940, 0.000, ServeBegin
At 1377.76, Entity: 147, 1377.762, 0.000, CreateEnd (Arrival)
At 1381.29, Entity: 148, 1381.287, 0.000, CreateEnd (Arrival)
At 1381.74, Entity: 149, 1381.738, 0.000, CreateEnd (Arrival)
At 1385.66, Entity: 130, 1152.940, 0.000, ServeEnd
At 1385.66, Entity: 131, 1153.287, 0.000, ServeBegin
At 1395.92, Entity: 150, 1395.917, 0.000, CreateEnd (Arrival)
At 1397.13, Entity: 131, 1153.287, 0.000, ServeEnd
At 1397.13, Entity: 132, 1172.453, 0.000, ServeBegin

At 1402.31, Entity: 151, 1402.307, 0.000, CreateEnd (Arrival)
At 1406.80, Entity: 132, 1172.453, 0.000, ServeEnd
At 1406.80, Entity: 133, 1179.679, 0.000, ServeBegin
At 1412.29, Entity: 152, 1412.288, 0.000, CreateEnd (Arrival)
At 1417.54, Entity: 133, 1179.679, 0.000, ServeEnd
At 1417.54, Entity: 134, 1196.258, 0.000, ServeBegin
At 1428.74, Entity: 134, 1196.258, 0.000, ServeEnd
At 1428.74, Entity: 135, 1211.333, 0.000, ServeBegin
At 1432.79, Entity: 153, 1432.788, 0.000, CreateEnd (Arrival)
At 1437.73, Entity: 135, 1211.333, 0.000, ServeEnd
At 1437.73, Entity: 136, 1220.617, 0.000, ServeBegin