

Assignment: Using the figure (reproduced below) on the next-to-last slide from the “ssq in R” lecture slides as a guide, you will produce four different figures:

- a convergence-to-steady-state figure like on that slide, but using your three favorite (different) initial seeds;
- same as above, but with the first gamma service process given on the last slide;
- same as the first, but with the second gamma service process given on the last slide; and
- same as the first, but with the third gamma service process given on the last slide.

Note that you may need to adjust the number of jobs in order reach “steady-state”. Make sure that your figures include appropriate axis labels as well as a legend indicating which curve corresponds to which seed.

For the theoretical average sojourn (solid line), use

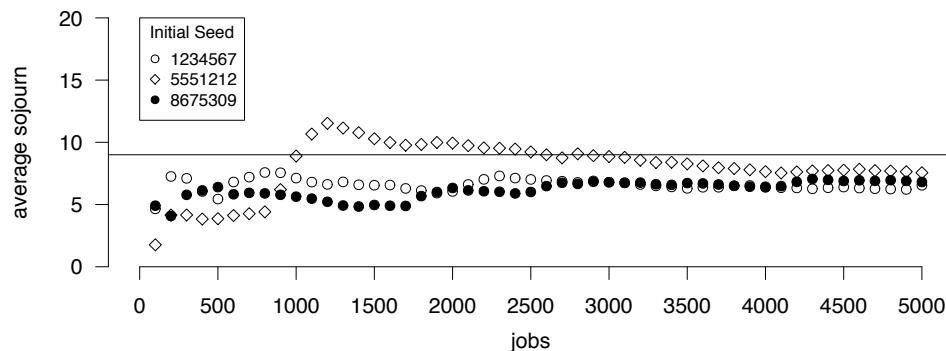
$$\frac{1}{\mu - 1}$$

for the the first (an M/M/1 queue), where μ is the service rate for the corresponding [exponential distribution](#); and use

$$\frac{1}{(1/k\theta) - 1}$$

for the last three (all M/G/1 queues), where k is the shape (first) parameter and θ is the scale (second) parameter for the corresponding [gamma distribution](#).

Also include a plain-text README.txt or README.pdf in which you discuss, for each figure, the convergence to steady state in the context of arrival rate versus service rate for that figure.



Submitting: Upload your work (lab2.R source, the four figures saved as PNGs or PDFs, your README.txt or README.pdf) to Lyceum.