Problem 1

You are going to write a queue simulation, so you need to generate exponential random variables in order to generate interarrival times and service times. (Indeed, you may find yourself doing this sooner rather than later...)

Sadly, your programming language does not have a function that generates an exponentially distributed random variable; it just has a function that generates (pseudo)-random number real numbers from the range \((0, 1)\). How can you use this to generate an exponentially distributed random variable with mean \(\mu\)?