Due Friday, March 7th, in class
Readings: [IPM10e]

1. Section 8.7 G/M/1 (p.553-558)

No Self-Study Problems today

Problems for Turn In:

1. [IPM10e] Exercise 8.46

2. There is a water tower which gives water to a desert town. It has been empty for a few day. Suppose that it showers in accordance with a Poisson process with rate $\lambda = 1/7$ per day (once a week on average). When it showers it always dumps 5,000 gallons of water into the tank. The residents of this town use 1,000 gallons of water per day continuously (at a constant rate throughout the day when there is water).

   (a) Explain why this problem can be analyzed as a queueing model. What kind of queueing model is it?

   (b) In the long run, what proportion of time the town has water?

   (c) What is the average length of time between the onset of drought period and the onset of the next?

   (d) What is long run average amount of water (in gallons) in the water tower?