1. Modify the MATLAB queue simulation program to model an M/G/1 queue. The server process uses a Weibull distribution with the following probability density function:

\[ f(t) = \left( \frac{B}{\alpha} \right) \left( \frac{t}{\alpha} \right)^{\beta-1} \exp \left( -\left( \frac{t}{\alpha} \right)^{\beta} \right), t \geq 0 \]

and \( f(t) = 0 \) elsewhere, where \( \lambda = 0.05 \), \( \mu = 0.06 \), \( \sigma = 4 \). Corresponding to the given values of \( \mu \) and \( \sigma \), the parameters of the Weibull probability density function are \( \alpha = 18.2094 \), and \( \beta = 4.7516 \).

Compare the behavior of this queue to the M/M/1 queue using the same values of \( \lambda \) and \( \mu \). Approximate the Weibull distribution using a triangular distribution as discussed in class.