

# Assignment 15 - M/M/c

## 1 Problem

A call center receives 200 calls per hour during peak time. Seven minutes are required on average to service a request. Determine the minimum number of workers needed to guarantee an expected queueing time of 1 minute.

## 2 Solution

It is hard to compute the requested value because to find the value of  $p_0$  we must compute a sum of an unknown number of values. But we can use the C Erlang table in order to solve this problem. In fact we can find the value of C and  $W_q$  results from:

$$W_q = \frac{C}{c\mu(1 - \rho)} \quad (1)$$

So we can compute c with the constraint that  $W_q \leq 1$  m. The result is  $c \geq 27$