Input: Arrival rate λ, Service rate μ, Simulation time T
Output: Average number of customers in the system L, Average waiting time W

initialize $t = 0$, $n = 0$, $A = 0$, $D = \infty$, $L = 0$, $W = 0$; **while** $t < T$ **do**
    if $A < D$ **then**
        $t = A$; $n \leftarrow n + 1$; $A \leftarrow t - \ln(U)/\lambda$; **if** $D = \infty$ **then**
            $D \leftarrow t - \ln(U)/\mu$;
        end
        $L \leftarrow L + (n - 1)(t - T_{last})$; $T_{last} \leftarrow t$;
    end
    else
        $t = D$; $n \leftarrow n - 1$; **if** $n > 0$ **then**
            $D \leftarrow t - \ln(U)/\mu$; $W \leftarrow W + (t - A)$;
        end
        else
            $D \leftarrow \infty$;
        end
    end
end
$L \leftarrow L/T$; $W \leftarrow W/n$;

Algorithm 1: MM1 Queueing System Simulation