\begin{enumerate}

\item Variables

\begin{itemize}

\item $S\_c$: The current state the process is in (operational initially)

\item $S\_t$: Target state (usually the system failure state)

\item $T\_{ci}$: Sample time spent in current state c given the successor is state i

\item $T\_{min}$:

\item $T$: Current time

\item $T\_m$: Mission time (input)

\item $B\_o$: Whether process is in target state at end of mission; 1(true) or 0(false)

\item p: a uniform random number

\item inv(p,c,t): inverse transform of p based on current state c and target state t

\end{itemize}

\item Initialization

\begin{itemize}

\item T=0

\end{itemize}

\item Repeat until $T$ < $T\_m$

\begin{itemize}

\item Choose p

\item

\item For each state i reachable in one-step from current state $S\_c$

\begin{itemize}

\item $T\_{ci}$ = inv(p, c, i)

\end{itemize}

\item $T\_{min} = min\{ min\{T\_{c1}, T\_{c2},…\}, T\_m - T $

\item $S\_c$ = state i corresponding to $T\_{min}$

\item T = T + $T\_{min}$

\item DT = DT + $\begin{cases} T\_{min} & if S\_c = S\_t \\ 0 & otherwise \end{cases}$

\end{itemize}

\item $B\_o$ = $\begin{cases} 1 & if S\_c = S\_t \\ 0 & otherwise \end{cases}$

\end{enumerate}