\begin{enumerate}

\item Constants

\begin{enumerate}

\item DOWN: event denoting component failure

\item UP: event denoting completion of component repair

\end{enumerate}

\item Variables

\begin{enumerate}

\item $T\_{cum}$: cumulative time

\item $T\_m$: mission time

\item E: event – either component DOWN or UP

\item $T\_e$: Time associated with event E

\item C: Component associated with event E

\item L: List of events

\end{enumerate}

\item Initialize

\begin{enumerate}

\end{enumerate}

\item For each component C in the system

\begin{enumerate}

\item $T\_{cum}$=0, E=DOWN

\item Repeat until $T\_{cum}$ $\leq$ $T\_m$

\begin{enumerate}

\item $T\_e$=\begin{cases}

next failure time of C & if E=DOWN \\

time of completion of repair of C & if E=UP

\end{cases}

\item If $T\_{cum}+T\_e$ has exceeded $T\_m$, proceed to next component

\item Add event E to the list L

\item If component is not repairable, proceed to next component

\item $T\_{cum} = T\_{cum} + T\_e$

\item Set E = \begin{cases}

DOWN & if E=UP \\

UP & if E=DOWN

\end{cases}

\end{enumerate}

\end{enumerate}

\item Sort L according to $T\_e$

\end{enumerate}