Global invariant \textit{GRAPH}:
\begin{align*}
token \text{ has value } V & \Rightarrow \\
& ( \text{the last } V \text{ channels in cycle } C \text{ were empty } \land \\
& \text{the last } V \text{ processes to receive the token were blue} )
\end{align*}

actions of $T[i]$ upon receiving a regular message:
$\text{color}[i] = \text{red};$

actions of $T[i]$ upon receiving the token:
\begin{align*}
\text{if } (\text{token} == \text{nc}) & \\
& \text{announce termination and halt;}
\end{align*}
\begin{align*}
\text{if } (\text{color}[i] == \text{red}) & \\
& \{ \text{color}[i] = \text{blue}; \text{token} = 0; \}
\end{align*}
\begin{align*}
\text{else} & \\
& \text{token}++; \\
& \text{set } j \text{ to index of channel for next edge in cycle } C;
\end{align*}
$\text{send ch}[j](\text{token});$

\textbf{Figure 9.18} Termination detection in a complete graph.

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