Depth First Search

Consider the graph shown on the slides and give the order in which the vertices are visited. You must show all steps in the DFS (you may abbreviate function names).

**FUNCTION DFS** \((G, \text{start\_vertex})\)

\[
\begin{align*}
\text{found} &= \{v: \text{FALSE} \text{ FOR } v \text{ IN } G.\text{vertices}\} \\
\text{DFSRecursion}(G, \text{start\_vertex}, \text{found}) \\
\text{RETURN} \ text{found}
\end{align*}
\]

**FUNCTION DFSRecursion** \((G, v, \text{found})\)

\[
\begin{align*}
\text{found}[v] &= \text{TRUE} \\
\text{FOR } v\text{Other IN } G.\text{edges}[v] \\
\text{IF } \text{found}[v\text{Other}] == \text{FALSE} \\
\text{DFSRecursion}(G, v\text{Other}, \text{found})
\end{align*}
\]