**11. Develop a LaTeX script to present an algorithm in the document using**

**algorithm/algorithmic/algorithm2e library.**

**\documentclass{article}**

**\usepackage[ruled, linesnumbered]{algorithm2e}**

**\begin{document}**

**\begin{algorithm}[H]**

**\SetAlgoLined**

**\SetKwFunction{Dijkstra}{Dijkstra}**

**\SetKwProg{Fn}{Function}{:}{}**

**\Fn{\Dijkstra{$G, s$}}{**

**$d[s] \gets 0$\;**

**\ForEach{$v \in V$}{**

**$d[v] \gets \infty$\;**

**$prev[v] \gets$ undefined\;**

**}**

**$Q \gets V$\;**

**\While{$Q$ is not empty}{**

**$u \gets$ vertex in $Q$ with minimum $d[u]$\;**

**Remove $u$ from $Q$\;**

**\ForEach{$v \in$ neighbors of $u$}{**

**$alt \gets d[u] + \mathrm{weight}(u, v)$\;**

**\If{$alt < d[v]$}{**

**$d[v] \gets alt$\;**

**$prev[v] \gets u$\;**

**}**

**}**

**}**

**\KwRet{$d[], prev[]$}\;**

**}**

**\caption{Dijkstra's Algorithm}**

**\label{algo:dijkstra}**

**\end{algorithm}**

**\end{document}**