Algorithm 2: Simple work filtering

Data: $G = (V, E)$, $\texttt{cc}[.]$, uv
Output: $\texttt{cc}'[.]$
$G' \leftarrow (V, E \cup \{uv\})$
$du[.] \leftarrow$ SSSP(G, u) ▷ distances from u in G
$dv[.] \leftarrow$ SSSP(G, v) ▷ distances from v in G
for each $s \in V$ **do**
    if $|du[s] - dv[s]| \leq 1$ **then**
        $\texttt{cc}'[s] = \texttt{cc}[s]$
    else
        ▷ use the computation in Algorithm 1 with G'
return $\texttt{cc}'[.]$