Method 7: Ford-Fulkerson

Input: directed graph $G = (V, E)$, capacity $c : E \to \mathbb{R}_{\geq 0}$, source $s \in V$, sink $t \in V$

Output: maximal flow $f : E \to \mathbb{R}_{\geq 0}$, flow value $f_{\max}$

$f_{\max} \leftarrow 0$
foreach $e = (u, v) \in E$ **do**
    $c_f(v, u) \leftarrow 0$
foreach $e = (u, v) \in E$ **do**
    $c_f(e) \leftarrow c(e)$
$E_f \leftarrow E$
while *there is an* $(s - t)$*-path* p *in* $G_f = (V, E_f)$ **do**
    $c_p \leftarrow \min\{c_f(e) \mid e \in p\}$
    $f_{\max} \leftarrow f_{\max} + c_p$
    foreach $(u, v) \in p$ **do**
        $c_f(u, v) \leftarrow c_f(u, v) - c_p$
        $c_f(v, u) \leftarrow c_f(v, u) + c_p$
        if $c_f(u, v) = 0$ **then**
            remove (u, v) from E_f
        if $(v, u) \notin E_f$ **then**
            add (v, u) to E_f
foreach $e \in E$ **do**
    $f(e) \leftarrow c(e) - c_f(e)$