Algorithm 1: CC: Basic centrality computation

Data: $G = (V, E)$
Output: $cc[.]$
1 **for each** $s \in V$ **do**
  ▷SSSP(G, s) with centrality computation
  $Q \leftarrow$ empty queue
  $d[v] \leftarrow \infty, \forall v \in V \setminus \{s\}$
  Q.push(s), $d[s] \leftarrow 0$
  $\texttt{far}[s] \leftarrow 0$
  while Q *is not empty* **do**
    $v \leftarrow Q$.pop()
    for all $w \in \Gamma_G(v)$ **do**
      if $d[w] = \infty$ **then**
        Q.push(w)
        $d[w] \leftarrow d[v] + 1$
        $\texttt{far}[s] \leftarrow \texttt{far}[s] + d[w]$
  $\texttt{cc}[s] = \frac{1}{\texttt{far}[s]}$
return $\texttt{cc}[.]$