Algorithm 1 Coding procedure

$B = \{$Buses waiting at the station $\}$
$S = \{$Next hop nodes to be reached by $B \}$
for all $s_i \in S$ **do**
   for all $s_j \in S, j \neq i$ **do**
      if $Q_{ij} \neq \varnothing$ and $Q_{ji} \neq \varnothing$ **then**
         m_i is picked at the head of Q_{ij}
         m_j is picked at the head of Q_{ji}

         return $m_c = m_i \oplus m_j$
      end if
   end for
end for

Algorithm 2 CDS with betweenness centrality

Require: A connected graph $G(V, E)$
$d \leftarrow \{v : bw(v)\}, v \in V$, sort by BW on ascending order
$V' \leftarrow \varnothing$, connected dominating sets
for all $v : bw(v), v \notin V'$ **do**
   if $bw(v) = 0$ OR $G(V - \{v\})$ is connected **then**
      $V' \leftarrow V' \cup MAX - BW(N(v))$
   else
      $V' \leftarrow V' \cup \{v\}$
   end if
   $V \leftarrow V - \{v\}$
end for

Algorithm 3 Euclids algorithm

1: $r \leftarrow a \bmod b$
2: **while** $r \neq 0$ **do**
3:     $a \leftarrow b$
4:     $b \leftarrow r$
5:     $r \leftarrow a \bmod b$
6: **end while**
7: **return** b