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Procedure DPTriangularPathCount( $\vec{G}, k$ )
  for  $v_i \in V$  do
    for  $v_x \in N_{v_i}(\vec{G})$  do
       $H(v_i, v_x, 1) \leftarrow 1$ 
    }  $H(v_i, v_x, 1) \leftarrow 1$  for  $(v_i, v_x) \in E$ 

  for  $j = 2$  to  $k - 1$  do
    for  $i = 1$  to  $n$  do
      for  $v_x \in N_{v_i}(\vec{G})$  do
         $H(v_i, v_x, j) \leftarrow 0$ 
        for  $v_t \in N_{v_x}(\vec{G})$  do
          if  $H(v_i, v_t, 1) = 1$  do
             $H(v_i, v_x, j) \leftarrow H(v_i, v_x, j) + H(v_x, v_t, j - 1)$ 

  return  $H$ 

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Procedure DPTriangularPathSampling( $\vec{G}, H, k$ )
   $R \leftarrow \emptyset$ ;  $last \leftarrow null$ ;  $seclast \leftarrow null$ ;
   $c(u) = \sum_{v \in N_u(\vec{G})} H(u, v, k - 1)$  for  $u \in V$  /*path counts starting at node u*/
  for  $i = 0$  to  $k - 1$  do
    if  $i = 0$  do
       $cnt \leftarrow \sum_{u \in Q} c(u)$ 
       $p(u) = c(u)/cnt$  foreach  $u \in V$ 
    if  $i = 1$  do
       $p(u) = H(last, u, k - 1)/c(last)$  foreach  $u \in N_{last}(\vec{G})$ 
    else:
       $p(u) = H(last, u, k - i)/H(seclast, last, k - i + 1)$  foreach  $u \in$ 
         $N_{last}(\vec{G}) \cap N_{seclast}(\vec{G})$ 
      Sample a node  $u$  with probability  $p(u)$ 
       $seclast \leftarrow last$ ;  $last \leftarrow u$ ;
       $R \leftarrow R \cup \{u\}$ 
  return  $R$ 

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