

HUNGARIAN(G)

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1  for each vertex  $l \in L$ 
2       $l.h = \max \{w(l, r) : r \in R\}$     // from equation (25.1)
3  for each vertex  $r \in R$ 
4       $r.h = 0$                             // from equation (25.2)
5  let  $M$  be any matching in  $G_h$  (such as the matching returned by
    GREEDY-BIPARTITE-MATCHING)
6  from  $G$ ,  $M$ , and  $h$ , form the equality subgraph  $G_h$ 
    and the directed equality subgraph  $G_{M,h}$ 
7  while  $M$  is not a perfect matching in  $G_h$ 
8       $P = \text{FIND-AUGMENTING-PATH}(G_{M,h})$ 
9       $M = M \oplus P$ 
10     update the equality subgraph  $G_h$ 
        and the directed equality subgraph  $G_{M,h}$ 
11 return  $M$ 
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