
Algorithm 4: RPNI

Input: A sample $\mathcal{S} = (S_+, S_-)$

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1 Construct  $\mathcal{A}_{Pref}^{S_+} = (Q, \Sigma, q_0, \delta, F)$ 
2 Order the set  $Q = Pref(S_+) = \{u_1, \dots, u_n\}$  in canonical order
3  $\sim_0 \leftarrow \{(u, u) \mid u \in Pref(S_+)\}$ 
4 for  $i = 1, \dots, n$  do
5   if  $u_i \not\sim_{i-1} u_j$  for each  $j \in \{0, \dots, i-1\}$  then
6      $\ell \leftarrow 0$ 
7     repeat
8       Let  $\sim$  be the smallest partial congruence containing  $\sim_{i-1}$  and  $(u_i, u_\ell)$ 
9        $\mathcal{B} \leftarrow \mathcal{A}_{Pref}^{S_+} / \sim$ 
10       $\ell \leftarrow \ell + 1$ 
11     until  $L(\mathcal{B}) \cap S_- = \emptyset$ 
12      $\sim_i \leftarrow \sim$ 
13   else
14      $\sim_i \leftarrow \sim_{i-1}$ 
15   end
16 end
17 return  $\mathcal{A}_{Pref}^{S_+} / \sim_n$ 
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