

Additional file: the algorithm in one block

Below is the algorithm in one block¹.

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1 ask for  $size(D)$ 
2  $size(D) = \min(size(D), 2^n)$ 
3 generate  $D \subseteq S$ 
4  $H = \{\}$ 
5  $A_{physio} = \{\}$ 
6 for  $x_0 \in D$  do
7    $k = 1$ 
8    $\mathbf{x}(1) = x_0$ 
9   while 1 do
10    if  $\exists w \in H : \mathbf{x}(k) \in w$  then
11      break
12    end if
13     $\mathbf{x}(k+1) = \mathbf{f}_{physio}(\mathbf{x}(k))$ 
14    if  $\exists k' \in \llbracket 1, k \rrbracket : \mathbf{x}(k+1) = \mathbf{x}(k')$  then
15       $A_{physio} = A_{physio} \cup \{(\mathbf{x}(k'), \dots, \mathbf{x}(k))\}$ 
16      break
17    end if
18     $k = k + 1$ 
19  end while
20   $H = H \cup \{(\mathbf{x}(1), \dots, \mathbf{x}(k))\}$ 
21 end for
22 return  $A_{physio}$ 
23 ask for  $r_{min}, r_{max}, max_{targ}, max_{moda}$ 
24  $r_{max} = \min(r_{max}, n)$ 
25  $golden\_set = \{\}$ 
26  $silver\_set = \{\}$ 
27 for  $r \in \llbracket r_{min}, r_{max} \rrbracket$  do
28    $max_{targ}^r = \min(max_{targ}, n!/(r! \cdot (n-r)!))$ 
29    $max_{moda}^r = \min(max_{moda}, 2^r)$ 
30    $C_{targ} = \{\}$ 
31    $C_{moda} = \{\}$ 
32   while  $size(C_{targ}) < max_{targ}^r$  do
33     generate  $c_{targ} \notin C_{targ}$ 
34      $C_{targ} = C_{targ} \cup \{c_{targ}\}$ 
35   end while
36   while  $size(C_{moda}) < max_{moda}^r$  do
37     generate  $c_{moda} \notin C_{moda}$ 
38      $C_{moda} = C_{moda} \cup \{c_{moda}\}$ 
39   end while
40   for  $c_{targ} \in C_{targ}$  do
41     for  $c_{moda} \in C_{moda}$  do
42        $H = \{\}$ 
43        $A_{patho} = \{\}$ 
44       for  $x_0 \in D$  do
45          $k = 1$ 

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46       $\mathbf{x}(1) = x_0$ 
47      while 1 do
48          if  $\exists w \in H : \mathbf{x}(k) \in w$  then
49              break
50          end if
51           $\mathbf{x}(k+1) = \mathbf{f}_{patho}(\mathbf{x}(k))$ 
52          for  $targ_i \in c_{targ}$  do
53              for  $v_j \in V$  do
54                  if  $v_j = targ_i$  then
55                       $x_j(k+1) = moda_i$ 
56                  end if
57              end for
58          end for
59          if  $\exists k' \in \llbracket 1, k \rrbracket : \mathbf{x}(k+1) = \mathbf{x}(k')$  then
60               $A_{patho} = A_{patho} \cup \{(\mathbf{x}(k'), \dots, \mathbf{x}(k))\}$ 
61              break
62          end if
63           $k = k + 1$ 
64      end while
65       $H = H \cup \{(\mathbf{x}(1), \dots, \mathbf{x}(k))\}$ 
66  end for
67  if  $A_{patho} \subseteq A_{physio}$  then
68      if  $A_{patho} = A_{physio}$  then
69           $golden\_set = golden\_set \cup \{(c_{targ}, c_{moda})\}$ 
70      else
71           $silver\_set = silver\_set \cup \{(c_{targ}, c_{moda})\}$ 
72      end if
73  end if
74  end for
75  end for
76  end for
77  return  $golden\_set$ 
78  return  $silver\_set$ 

```