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**Algorithm 1:** Choose Disassembly Sequence (Algo-CDS)

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/* The algorithm must be repeated for each  $p$  individual. */
Data:  $nM, nA, SUC, PRE, dec\_sol_p$  ;      /* Algo-CDS inputs */
Result:  $sc$  ;                             /* Algo-CDS output */
begin
  /* Start of Algo-CDS || Repeat for each  $m$  model. */
  for  $m \leftarrow 1$  to  $nM$  do
    /* Set initial values for each model  $m$ . */
     $sc_m \leftarrow \emptyset$  ;                /* Selected normal nodes */
     $cA \leftarrow [A_0]$  ;                    /* Encountered artificial nodes */
     $cOR \leftarrow 1$  ;                      /* Encountered OR Successor relations */
    /* Continues until no artificial node is encountered */
    /*
    while  $cA \neq \emptyset$  do
      /* Assign assignable normal nodes for each
      encountered artificial node. */
      for  $k \in cA$  do
        /* If there is OR Successor relation in the
        encountered artificial node  $k$ , select normal
        node using  $SUC_{mk}$ ,  $dec\_sol_{pm}$  and  $cOR$ ,
        otherwise select directly with  $SUC_{mk1}$ . */
        if  $s(SUC_{mk}) > 1$  and  $SUC_{mk} \notin sc_m$  then
           $sc_m \leftarrow sc_m + \{SUC_{mk}(\text{ceil}(s(SUC_{mk}) \times dec\_sol_{pm}(cOR)))\}$ ;
           $cOR \leftarrow cOR + 1$ 
        else if  $s(SUC_{mk}) = 1$  and  $SUC_{mk1} \notin sc_m$  then
           $sc_m \leftarrow sc_m + \{SUC_{mk1}\}$ ;
        end
      /* Add the artificial nodes  $k$  in  $PRE_m$  to the  $cA$ ,
      considering the normal nodes added to  $sc_m$  list
      in the last iteration. */
      /* If a normal node in  $SUC_{mk}$  of artificial nodes
       $k$  in  $cA$  is selected in  $sc_m$ , remove the
      artificial node  $k$  from  $cA$  list. */
      Update  $cA$  with  $sc_m$ ;
    end
  end
  return  $sc$ 
end
```

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