Metaheuristics Project

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1 Large Neighborhood Search

Algorithm 1 Pseudocode for the Large-Neighborhood Search

function LNS($s^*, t,$ config)
  $s_{\text{best}} \leftarrow s^*$
  $n \leftarrow 0$ ▷ Numer of iterations with no change
  while $n \leq 100 \wedge t_{\text{run}} < t$ **do** ▷ Do not exceed time limit
    $s_{\text{destroyed}} \leftarrow \textsc{Destroy}(s^*)$
    $s_{\text{repair}} \leftarrow \textsc{Repair}(s_{\text{destroyed}})$
    if $s_{\text{repair}} > s_{\text{best}}$ **then**
      $s_{\text{best}} \leftarrow s_{\text{repair}}$
      $n \leftarrow 0$
    else
      $n \leftarrow n + 1$ ▷ If the solution is not better, increase n
    end if
  end while
end function

Algorithm 2 Pseudocode for the Destroy Operators

function $\textsc{Destroy}(s^*)$
  $o \leftarrow$ randomly choose destroy operator
  if $o = 1$ **then**
    weeks, ganes $\leftarrow$ Randomly destroy 2 or 3 weeks
  else if $o = 1$ **then**
    weeks, ganes $\leftarrow$ Destroy the 2 or 3 worst weeks
  end if
end function

Algorithm 3 Pseudocode for the Repair Operators

function $\textsc{Repair}(s^*)$
end function