Algorithm 1 `multidupehack`.

Data: U, V, S
Output: Every closed pattern containing every element in U, possibly some elements in V, and satisfying a piecewise (anti)-monotone constraint $\mathcal{C}$
if $\mathcal{C}$ may be satisfied by a pattern descending from this node $\wedge U \cup V$ is closed **then**
  if $V = (\emptyset, \ldots, \emptyset)$ **then**
    output(U)
  else
    Choose $e \in V$
    `multidupehack`$(U \cup \{e\},$
    $\{v \in V \setminus \{e\} \mid U \cup \{e\} \cup \{v\} isconnected\},$
    $\{s \in S \mid U \cup \{e\} \cup \{s\} isconnected\})$
    `multidupehack`$(U, V \setminus \{e\}, S \cup \{e\})$
  end if
end if