

Procedure GRAPHSEARCH (Nils Nilsson)

1. Create a search graph, G , which consists only of the start node, s . s is placed on a list called OPEN.
2. Create a list called CLOSED. This list is initially empty.
3. LOOP: if Empty(OPEN), then exit with failure.
4. $n \leftarrow \text{First}(\text{OPEN})$
OPEN = OPEN - $\{n\}$
CLOSED = CLOSED + $\{n\}$
5. If Goal(n), exit successfully with the solution obtained by tracing a path along the pointers from n to s in G (pointers are established in step 7).
6. Expand node n , generating the set, M , of its successors and install them as successors of n in G
7. Establish a pointer to n from those members of M that were not already in G , i.e., on either CLOSED or OPEN. Add these members of M to OPEN.
For each member of M that was already on OPEN or CLOSED, decide whether or not to redirect its pointer to n .
For each member of M already on CLOSED, decide for each of its descendants in G whether or not to redirect its pointer.
8. Reorder the list OPEN, either according to an arbitrary scheme or according to heuristic merit.
9. End LOOP