GRAPH-SEARCH algorithms

function GRAPH-SEARCH(problem) **returns** a solution, or failure
  initialize the frontier using the initial state of problem
  initialize the explored set to be empty
  loop do
    if the frontier is empty **then return** failure
    choose a leaf node and remove it from the frontier
    if the node contains a goal state **then return** the corresponding solution
    add the node to the explored set
    expand the chosen node, adding the resulting nodes to the frontier
      only if not in the frontier or explored set

- The **explored set** remembers every expanded node.

- Generated nodes that match previously generated nodes, i.e., those in the explored set or the frontier — can be discarded