function ONLINE-DFS-AGENT(*problem*, *s'*) **returns** an action
              s, *a*, the previous state and action, initially null
              result, a table mapping (s, a) to *s'*, initially empty
              untried, a table mapping *s* to a list of untried actions
              unbacktracked, a table mapping *s* to a list of states never backtracked to

  if *problem*.IS-GOAL(*s'*) **then return** *stop*
  if *s'* is a new state (not in *untried*) **then** *untried*[*s'*] ← *problem*.ACTIONS(*s'*)
  if *s* is not null **then**
     result[*s*, *a*] ← *s'*
     add *s* to the front of *unbacktracked*[*s'*]
  if *untried*[*s'*] is empty **then**
     if *unbacktracked*[*s'*] is empty **then return** *stop*
     a ← an action *b* such that *result*[*s'*, *b*] = POP(*unbacktracked*[*s'*])*s'* ← null
  else *a* ← POP(*untried*[*s'*])
  s ← *s'*
  return *a*