

## Iterative deepening Search

### Algorithm

function Iterative-deepening-search(initial-state,  
goal-state, max-depth)

for depth from 0 to max-depth  
set result = depth-limited-search(initial-state, goal-state, depth)

if result is not None then

return result

return None

function depth-limited-search(node, goal-state,  
limit)

if goal-state = node-state then  
return node

if node-depth > limit then  
return None

for each child in expand(node)

set result = depth-limited-search

(child-state, goal-state, limit)

if result is not None

return result

return None

set initial-state, goal-state, max-depth

set Solutions = Iterative-deepening-search

(initial-state, goal-state, max-depth)

if Solutions is not None then print Solutions

else print "no solution found"