

25/10/24

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LAB-4

## A\* ALGORITHM

function A\* Search (Problem) return a solution

(or) failure

node  $\leftarrow$  a node  $n$  with  $n$  state = problem initial state

$$n.g = 0$$

frontier  $\leftarrow$  a priority queue ordered by ascending  $g$ -th only element  $n$ .

loop do

if empty ? (frontier) then return failure

$n \leftarrow \text{pop}(\text{frontier})$

if problem.goal test ( $n$ .state) then return solution ( $n$ )

for each action  $a$  in problem.actions ( $n$ .state)  
do

$n' \leftarrow \text{child node}(\text{problem}, n, a)$

insert ( $n'$ ,  $g(n') + h(n')$ , frontier)

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