

A* Search Algorithm

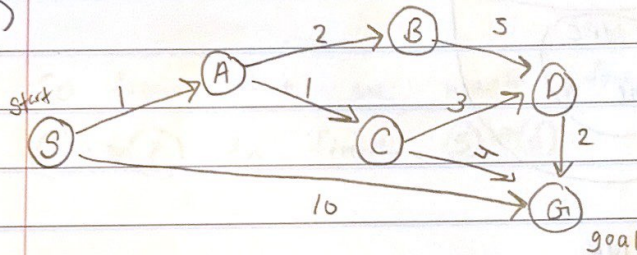
Heuristics: Smell or estimate distance to the cheese

[in the example of a maze with a rat at one end and a block of cheese at the other]

$$p(V) = \text{dist}(V)$$

↑ priority for our priority queue

ex 1)



State	$h(n)$ (heuristic values)
S	5
A	3
B	4
C	2
D	6
G	0

① $S \rightarrow A \Rightarrow f(N) = g(N) + h(N)$

$$1 + 3$$

$$= 4$$

$S \rightarrow G \Rightarrow 10 + 0 = 10$ [hold]

② $S \rightarrow A \rightarrow B \Rightarrow 1 + 2 + 4 = 7$ [hold]

$S \rightarrow A \rightarrow C \Rightarrow 1 + 1 + 2 = 4$

③ $S \rightarrow A \rightarrow C \rightarrow G \Rightarrow 1 + 1 + 2 + 4 = 8$