

CS486 Lecture 3 - To the A*'s and beyond

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A*

Optimality

Slide 23 of Lecture 3 is an important proof on the optimality of A*, remember it only applies for trees

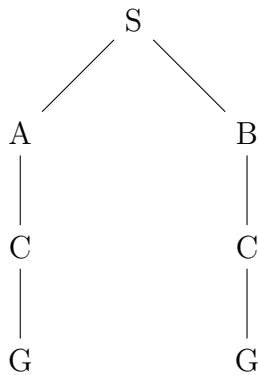
A* Revisiting States

See lecture 3 Slide 24

The numbers come from the value of $F() + H()$ of that node, crossouts mean we popped that off of the queue

S	B(4)	A(8)
B	C(5)	A(8)
A	A(8)	G(10)
C	C(4)	G(10)
	G(9)	G(10)

We have now found the shorter path to G



Heuristic Functions

Basic idea - think of an easier way to solve the problem, that doesn't always work. Then use this as our guess

Can ignore rules of our original problem and simplify if needed

We want hueristics that are as close to the solution as we can get that are still optimistically costed (under or equal to the actual cost)