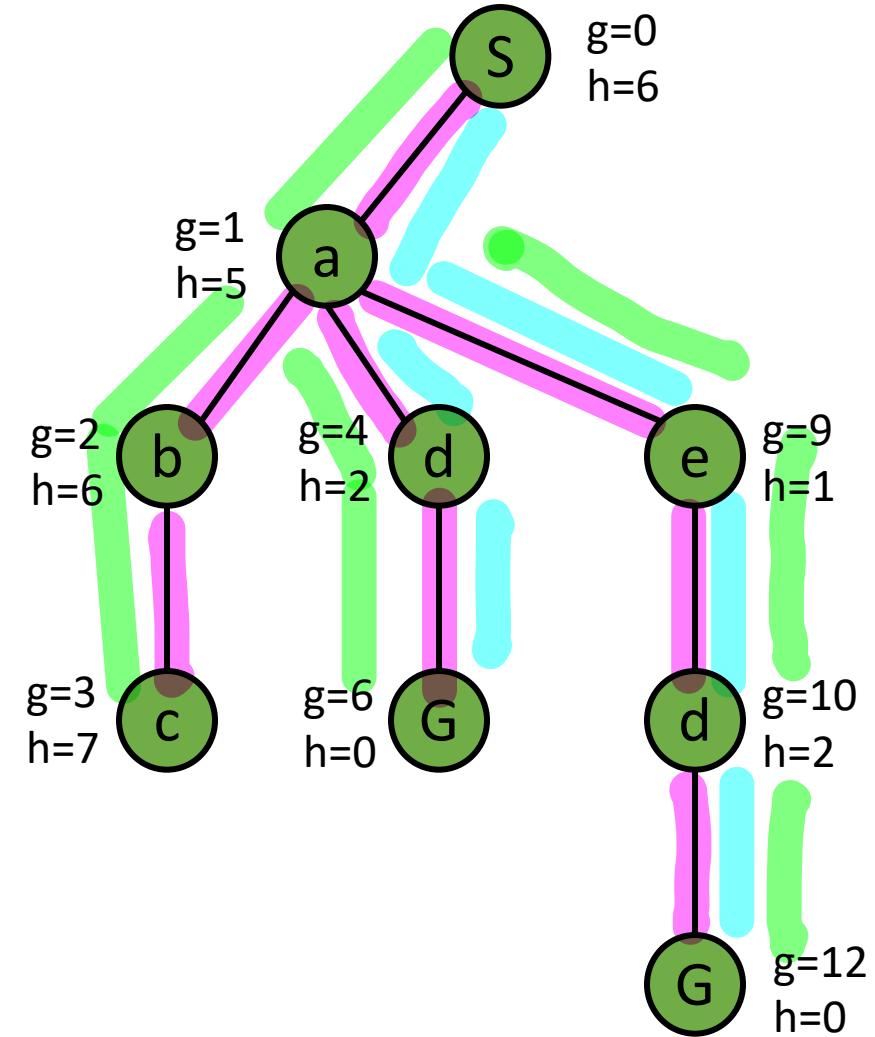
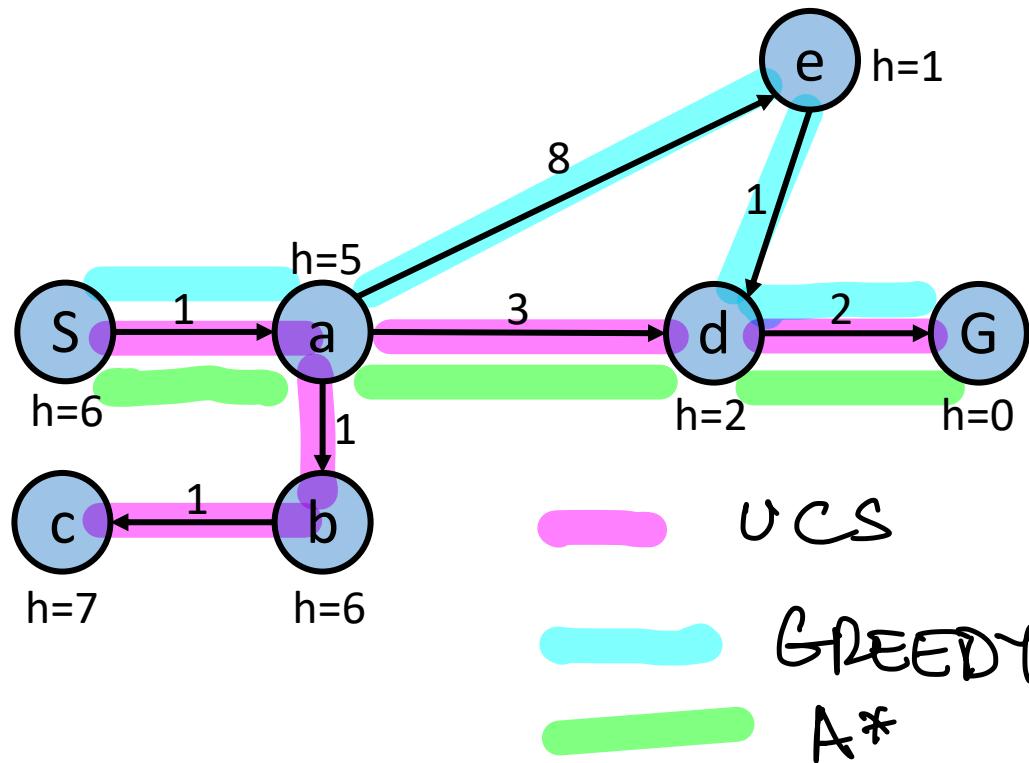


A* Search

Example: Compare Uniform Cost, Greedy Search, and A* on the graph below. S->G



VCS

<u>F</u>	<u>R</u>	<u>ACTION</u>
\emptyset	S, \emptyset	$S \rightarrow a(1)$
1. a, l	S, a	$a \rightarrow b(l+1), d(l+3), e(l+8)$
2. $b(2)$ $d(4)$	S, a, b	$b \rightarrow c(l+l+1)$
3. $c(3)$ $d(4)$ $e(9)$	S, a, b, c	$c \rightarrow \emptyset$
4. $d(4)$ $e(9)$	S, a, b, c, d	$d \rightarrow g(l+3+2)$
5. $g(6)$ $e(9)$	S, a, b, c, d, g	$g \rightarrow \text{Popped.}$
	$[g \leftarrow d \leftarrow a \leftarrow S] = 6$	

F

R

GREEDY
ACTION

0. S
1. a
2. e
3. d
4. g

$s \rightarrow a(s),$

$a \rightarrow e(1), d(2), b(6)$

$e \rightarrow d(2)$

$d \rightarrow g(0)$

Path: $g \leftarrow d \leftarrow e \leftarrow a \leftarrow s$

$s \rightarrow a \rightarrow e \rightarrow d \rightarrow g.$

<u>F</u>	<u>R</u>	<u>A*</u>	<u>ACTION</u>
0. $s(b)$	s		$s \rightarrow a(1+5)$
1. $a(b)$	s, a		$a \rightarrow b(1+6), d(3+2), e(8+1)$
2. $d(5)$ $b(7)$ $e(9)$	s, a, d		$d \rightarrow g(1+3+2)$
3. $g(6)$ $b(7)$ $e(9)$	s, a, d, g		$g \rightarrow$ Popped \therefore Done
		Path	$g \leftarrow d \leftarrow a \leftarrow s$
			$s \rightarrow a \rightarrow d \rightarrow g$ Path = 6