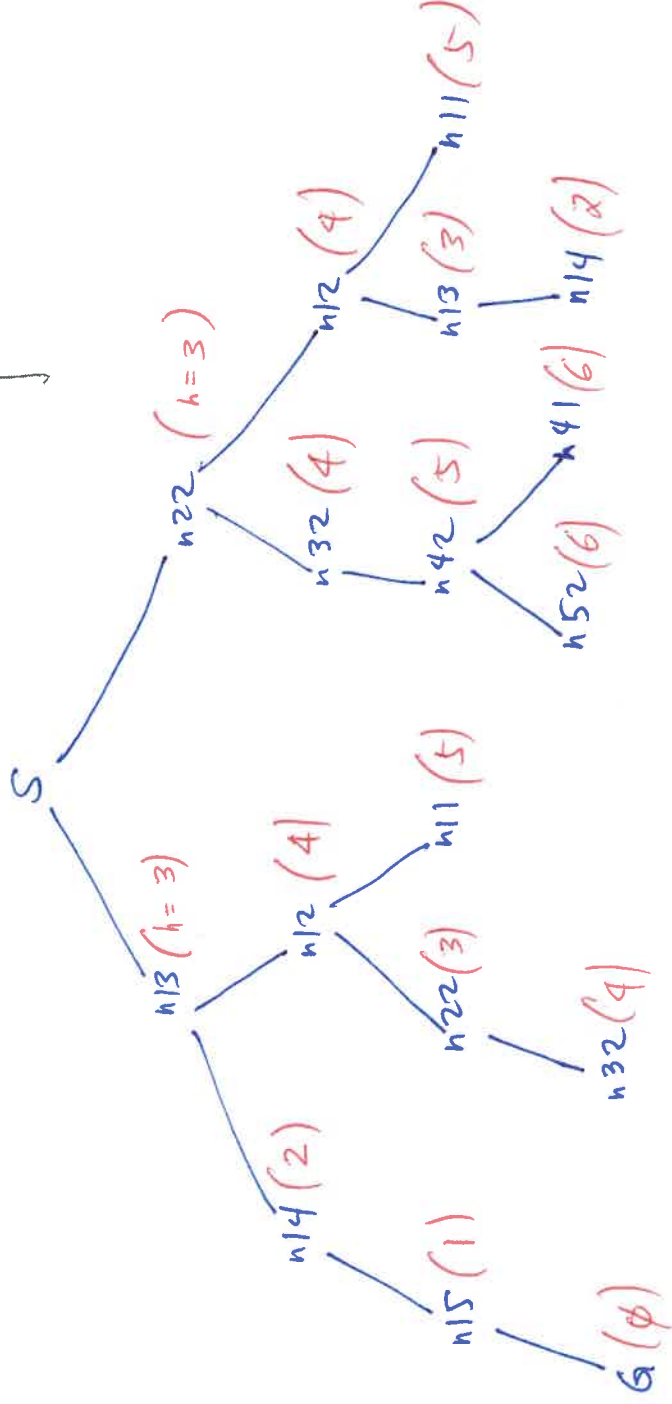


# MAZE PROBLEM

A\* with Spider Expanded list (4-connected Gridworld)

$h$  = Manhattan distance

Step	Deq	Enq	Expanded
0		(2,5)	
1	(2,5)	(4,12,5) (4,22,5)	
2	(4,13,5)	(4,14,13,5) (6,12,13,5) (4,22,5)	S
3	(4,14,13,5)	(4,15,14,13,5) (6,12,13,5) (4,22,5)	S, 13
4	(4,15,14,13,5)	(4,16,15,14,13,5) (6,12,13,5) (4,22,5)	S, 13, 14, 15
5	(4,16,15,14,13,5)	(4,17,16,15,14,13,5) (6,12,13,5) (4,22,5)	" , 15
6			



IDA\*

STEP	DEQ	ENQ	Threshold
0		<del>(25)</del>	2
1	(25)	<del>(4, n13, S)</del> (4, n22, S)	
2	(4, n13, S)	<del>(4, n22, S)</del>	
3	(4, n22, S)	— empty Q —	
0		<del>(25)</del>	update threshold = 4
1	(25)	<del>(4, n13, S)</del> (4, n22, S)	
2	(4, n13, S)	<del>(4, n14, n13, S)</del> (6, n12, n13, S) (4, n22, S)	
3	(4, n14, n13, S)	<del>(4, n15, n14, n13, S)</del> (6, n12, n13, S) (4, n22, S)	
4	(4, n15, n14, n13, S)	<del>(4, n15, n14, n13, S)</del> (6, n12, n13, S) (4, n22, S)	
5	(4, n15, n14, n13, S)	(6, n12, n13, S) (4, n22, S)	

Goal found!

path: S - n13 - n14 - n15 - G

Sequence of State Expansions: S - n13 - n22 - S - n13 - n14

n15 - G

A\* N-Shift

STEP	DEG	END	EXP LIST
0		<del>905</del>	
1	(905)	(101 AS) (3 BS)	905
2	3 BS	(94 CBS) (101 AS)	905, 3B
3	(94 CBS)	(104 G CBS) ( <del>101 AS</del> )	" 94C
4	(101 AS)	( <del>92 CAS</del> ) (104 G CBS)	905, 3B, <del>94C</del>
5	(92 CAS)	(102 G CAS) ( <del>104 G CBS</del> )	" 92C
6	(102 G CAS)		