

# Assignment 3

CS 331

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Complexity  $O(n^2)$

Example Output 10x10 (Can do more but for simplicity sake)

Note: Diagonal movement would NEVER result in optimal path, so omitted

10	6	24	36	23	22	39	38	8	37
17	29	8	12	17	31	11	13	18	12
24	37	5	4	33	5	22	17	2	2
28	39	28	13	27	15	21	29	32	19
30	8	0	28	17	33	37	31	4	35
14	14	6	3	2	18	21	11	9	22
18	11	15	7	34	10	38	16	9	27
31	19	21	35	36	17	36	38	37	18
4	33	13	7	21	18	0	20	20	27
11	36	23	14	16	37	0	19	5	27

Maximum Path Value: 532

(0,0)right to (0,1)

(0,1)right to (0,2)

(0,2)right to (0,3)

(0,3)right to (0,4)

(0,4)right to (0,5)

(0,5)right to (0,6)

(0,6)right to (0,7)

(0,7)right to (0,8)

(0,8)right to (0,9)

(0,0)down to (1,0)

(1,0)right to (1,1)

(1,1)right to (1,2)

(0,3)down to (1,3)

(0,4)down to (1,4)

(0,5)down to (1,5)

(0,6)down to (1,6)

(0,7)down to (1,7)

(1,7)right to (1,8)

(0,9)down to (1,9)

(1,0)down to (2,0)

(1,1)down to (2,1)

(2,1)right to (2,2)

(2,2)right to (2,3)

(1,4)down to (2,4)

(1,5)down to (2,5)

(1,6)down to (2,6)

(1,7)down to (2,7)

(1,8)down to (2,8)

(1,9)down to (2,9)

(2,0)down to (3,0)

(2,1)down to (3,1)

(3,1)right to (3,2)

(3,2)right to (3,3)

(3,3)right to (3,4)

(3,4)right to (3,5)

(3,5)right to (3,6)

(3,6)right to (3,7)

(3,7)right to (3,8)

(3,8)right to (3,9)

(3,0)down to (4,0)

(3,1)down to (4,1)

(3,2)down to (4,2)

(3,3)down to (4,3)

(4,3)right to (4,4)

(4,4)right to (4,5)  
(4,5)right to (4,6)  
(4,6)right to (4,7)  
(4,7)right to (4,8)  
(4,8)right to (4,9)  
(4,0)down to (5,0)  
(4,1)down to (5,1)  
(4,2)down to (5,2)  
(4,3)down to (5,3)  
(4,4)down to (5,4)  
(4,5)down to (5,5)  
(4,6)down to (5,6)  
(4,7)down to (5,7)  
(5,7)right to (5,8)  
(4,9)down to (5,9)  
(5,0)down to (6,0)  
(5,1)down to (6,1)  
(5,2)down to (6,2)  
(5,3)down to (6,3)  
(5,4)down to (6,4)  
(5,5)down to (6,5)  
(5,6)down to (6,6)  
(6,6)right to (6,7)  
(6,7)right to (6,8)  
(5,9)down to (6,9)  
(6,0)down to (7,0)  
(7,0)right to (7,1)  
(7,1)right to (7,2)  
(7,2)right to (7,3)

(6,4)down to (7,4)

(7,4)right to (7,5)

(6,6)down to (7,6)

(7,6)right to (7,7)

(7,7)right to (7,8)

(7,8)right to (7,9)

(7,0)down to (8,0)

(7,1)down to (8,1)

(8,1)right to (8,2)

(7,3)down to (8,3)

(7,4)down to (8,4)

(8,4)right to (8,5)

(7,6)down to (8,6)

(7,7)down to (8,7)

(7,8)down to (8,8)

(8,8)right to (8,9)

(8,0)down to (9,0)

(8,1)down to (9,1)

(9,1)right to (9,2)

(9,2)right to (9,3)

(8,4)down to (9,4)

(8,5)down to (9,5)

(8,6)down to (9,6)

(8,7)down to (9,7)

(8,8)down to (9,8)

(8,9)down to (9,9)