Group Members:

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Our HW2 consists of multiple algorithms which compute the path from the start state to the finished state. Our solution was run on a personal AWS server and was written in python3.

Test Case A init state = 1 2 7 3 5 6 11 4 9 10 15 8 13 14 12 0 (where 0 is the empty space)

IDS: problem 1: 3710 nodes searched, 0.0.095917
LEFT -> UP-> UP-> UP -> EAST-> SOUTH -> SOUTH -> SOUTH (solution)
First five states:
UP-LEFT-LEFT-DOWN-RIGHT
Problem 2
UP-UP-UP-RIGHT-DOWN-DOWN-DOWN-RIGHT-UP-UP-UP-RIGHT-DOWN-DOWN-DOWN
First five states:
RIGHT->RIGHT -> UP->RIGHT-> DOWN

A*:
Problem 1: 75 nodes searched, 0.003705s
LEFT-UP-UP-UP-RIGHT-DOWN-DOWN-DOWN
75 nodes searched, 0.003705s

Problem 2: 64 NODES 0.000295s
UP-UP-UP-RIGHT-DOWN-DOWN-DOWN-LEFT-UP-UP-UP-LEFT-DOWN-DOWN-DOWN
RIGHT-RIGHT-RIGHT-DOWN