Robot:

Uniform Cost Route: Current Position: (0,0)

Current Position: (0,1)

Current Position: (1,0)

Current Position: (0,2)

Current Position: (2,0)

Current Position: (0,3)

Current Position: (1,2)

Current Position: (2,1)

Current Position: (3,0)

Current Position: (0,4)

Current Position: (1,3)

Current Position: (3,1)

Current Position: (4,0)

Current Position: (0,5)

Current Position: (1,4)

Current Position: (2,3)

Current Position: (3,2)

Current Position: (4,1)

Current Position: (5,0)

Current Position: (0,6)

Current Position: (1,5)

Current Position: (2,4)

Current Position: (3,3)

Current Position: (4,2)

Current Position: (5,1)

Current Position: (6,0)

Current Position: (0,7)

Current Position: (1,6)

Current Position: (2,5)

Current Position: (3,4)

Current Position: (4,3)

Current Position: (5,2)

Current Position: (6,1)

Current Position: (7,0)

Current Position: (0,8)

Current Position: (1,7)

Current Position: (2,6)

Current Position: (4,4)

Current Position: (5,3)

Current Position: (6,2)

Current Position: (7,1)

Current Position: (8,0)

Current Position: (0,9)

Current Position: (1,8)

Current Position: (2,7)

Current Position: (3,6)

Current Position: (4,5)

Current Position: (5,4)

Current Position: (6,3)

Current Position: (7,2)

Current Position: (8,1)

Current Position: (9,0)

Current Position: (0,10)

Current Position: (1,9)

Current Position: (2,8)

Current Position: (3,7)

Current Position: (4,6)

Current Position: (5,5)

Current Position: (6,4)

Current Position: (7,3)

Current Position: (8,2)

Current Position: (9,1)

Current Position: (10,0)

Current Position: (0,11)

Current Position: (1,10)

Current Position: (2,9)

Current Position: (3,8)

Current Position: (4,7)

Current Position: (5,6)

Current Position: (6,5)

Current Position: (7,4)

Current Position: (8,3)

Current Position: (9,2)

Current Position: (10,1)

Current Position: (11,0)

Current Position: (0,12)

Current Position: (1,11)

Current Position: (2,10)

Current Position: (3,9)

Current Position: (4,8)

Current Position: (5,7)

Current Position: (6,6)

Current Position: (7,5)

Current Position: (8,4)

Current Position: (9,3)

Current Position: (10,2)

Current Position: (11,1)

Current Position: (12,0)

Current Position: (0,13)

Current Position: (1,12)

Current Position: (2,11)

Current Position: (3,10)

Current Position: (4,9)

Current Position: (5,8)

Current Position: (6,7)

Current Position: (7,6)

Current Position: (8,5)

Current Position: (9,4)

Current Position: (10,3)

Current Position: (11,2)

Current Position: (12,1)

Current Position: (13,0)

Current Position: (0,14)

Current Position: (1,13)

Current Position: (2,12)

Current Position: (3,11)

Current Position: (4,10)

Current Position: (5,9)

Current Position: (6,8)

Current Position: (7,7)

Current Position: (8,6)

Current Position: (9,5)

Current Position: (10,4)

Current Position: (11,3)

Current Position: (12,2)

Current Position: (13,1)

Current Position: (14,0)

Current Position: (0,15)

Current Position: (1,14)

Current Position: (2,13)

Current Position: (3,12)

Current Position: (4,11)

Current Position: (5,10)

Current Position: (6,9)

Current Position: (8,7)

Current Position: (9,6)

Current Position: (10,5)

Current Position: (11,4)

Current Position: (12,3)

Current Position: (13,2)

Current Position: (14,1)

Current Position: (0,16)

Current Position: (1,15)

Current Position: (2,14)

Current Position: (3,13)

Current Position: (4,12)

Current Position: (5,11)

Current Position: (6,10)

Current Position: (7,9)

Current Position: (8,8)

Current Position: (9,7)

Current Position: (10,6)

Current Position: (11,5)

Current Position: (12,4)

Current Position: (13,3)

Current Position: (14,2)

Current Position: (0,17)

Current Position: (1,16)

Current Position: (2,15)

Current Position: (3,14)

Current Position: (4,13)

Current Position: (5,12)

Current Position: (6,11)

Current Position: (7,10)

Current Position: (8,9)

Current Position: (9,8)

Current Position: (10,7)

Current Position: (11,6)

Current Position: (12,5)

Current Position: (13,4)

Current Position: (14,3)

Current Position: (0,18)

Current Position: (1,17)

Current Position: (2,16)

Current Position: (3,15)

Current Position: (4,14)

Current Position: (5,13)

Current Position: (6,12)

Current Position: (7,11)

Current Position: (8,10)

Current Position: (9,9)

Current Position: (10,8)

Current Position: (11,7)

Current Position: (12,6)

Current Position: (13,5)

Current Position: (14,4)

Current Position: (0,19)

Current Position: (1,18)

Current Position: (2,17)

Current Position: (3,16)

Current Position: (4,15)

Current Position: (5,14)

Current Position: (6,13)

Current Position: (7,12)

Current Position: (8,11)

Current Position: (9,10)

Current Position: (10,9)

Current Position: (11,8)

Current Position: (12,7)

Current Position: (13,6)

Current Position: (14,5)

Current Position: (1,19)

Current Position: (2,18)

Current Position: (3,17)

Current Position: (4,16)

Current Position: (5,15)

Current Position: (6,14)

Current Position: (7,13)

Current Position: (8,12)

Current Position: (9,11)

Current Position: (10,10)

Current Position: (11,9)

Current Position: (12,8)

Current Position: (13,7)

Current Position: (14,6)

Current Position: (2,19)

Current Position: (3,18)

Current Position: (4,17)

Current Position: (5,16)

Current Position: (6,15)

Current Position: (7,14)

Current Position: (8,13)

Current Position: (9,12)

Current Position: (10,11)

Current Position: (11,10)

Current Position: (12,9)

Current Position: (13,8)

Current Position: (14,7)

Current Position: (3,19)

Current Position: (4,18)

Current Position: (5,17)

Current Position: (6,16)

Current Position: (7,15)

Current Position: (8,14)

Current Position: (9,13)

Current Position: (10,12)

Current Position: (11,11)

Current Position: (12,10)

Current Position: (13,9)

Current Position: (14,8)

Current Position: (4,19)

Current Position: (5,18)

Current Position: (6,17)

Current Position: (7,16)

Current Position: (8,15)

Current Position: (9,14)

Current Position: (10,13)

Current Position: (11,12)

Current Position: (12,11)

Current Position: (13,10)

Current Position: (14,9)

Current Position: (5,19)

Current Position: (6,18)

Current Position: (7,17)

Current Position: (8,16)

Current Position: (9,15)

Current Position: (10,14)

Current Position: (11,13)

Current Position: (12,12)

Current Position: (13,11)

Current Position: (14,10)

Current Position: (6,19)

Current Position: (7,18)

Current Position: (8,17)

Current Position: (9,16)

Current Position: (10,15)

Current Position: (11,14)

Current Position: (12,13)

Current Position: (13,12)

Current Position: (14,11)

Current Position: (7,19)

Current Position: (8,18)

Current Position: (9,17)

Current Position: (10,16)

Current Position: (11,15)

Current Position: (12,14)

Current Position: (13,13)

Current Position: (14,12)

Current Position: (8,19)

Current Position: (9,18)

Current Position: (10,17)

Current Position: (11,16)

Current Position: (12,15)

Current Position: (13,14)

Current Position: (14,13)

Current Position: (9,19)

Current Position: (10,18)

Current Position: (11,17)

Current Position: (12,16)

Current Position: (13,15)

Current Position: (14,14)

Current Position: (10,19)

Current Position: (11,18)

Current Position: (12,17)

Current Position: (13,16)

Current Position: (14,15)

Current Position: (11,19)

Current Position: (12,18)

Current Position: (13,17)

Current Position: (14,16)

Current Position: (12,19)

Current Position: (13,18)

Current Position: (14,17)

Current Position: (14,18)

Current Position: (14,19)

g(n) Completed Array: [ 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 1 0 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 2 3 0 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 3 4 5 6 7 0 9 10 11 12 13 14 15 16 17 18 19 20 21 22 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 7 8 9 10 11 12 13 14 0 16 17 18 19 20 21 22 23 24 25 26 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 0 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 ]

Process finished with exit code 0

/home/arya11/ClionProjects/graphCol/cmake-build-debug/graphCol

A\* Algorithm: Current Position: (0,0)

Current Position: (0,1)

H(n): 22.803509,G(n): 1 Current Position: (1,0)

H(n): 23.021729,G(n): 1 Current Position: (0,2)

H(n): 22.022716,G(n): 2 Current Position: (2,0)

H(n): 22.472205,G(n): 2 Current Position: (0,3)

H(n): 21.260292,G(n): 3 Current Position: (1,2)

H(n): 21.400935,G(n): 3 Current Position: (2,1)

H(n): 21.633308,G(n): 3 Current Position: (3,0)

H(n): 21.954498,G(n): 3 Current Position: (0,4)

H(n): 20.518285,G(n): 4 Current Position: (1,3)

H(n): 20.615528,G(n): 4 Current Position: (3,1)

H(n): 21.095023,G(n): 4 Current Position: (4,0)

H(n): 21.470911,G(n): 4 Current Position: (0,5)

H(n): 19.798990,G(n): 5 Current Position: (1,4)

H(n): 19.849433,G(n): 5 Current Position: (2,3)

H(n): 20.000000,G(n): 5 Current Position: (3,2)

H(n): 20.248457,G(n): 5 Current Position: (4,1)

H(n): 20.591260,G(n): 5 Current Position: (5,0)

H(n): 21.023796,G(n): 5 Current Position: (0,6)

H(n): 19.104973,G(n): 6 Current Position: (1,5)

H(n): 19.104973,G(n): 6 Current Position: (2,4)

H(n): 19.209373,G(n): 6 Current Position: (3,3)

H(n): 19.416488,G(n): 6 Current Position: (4,2)

H(n): 19.723083,G(n): 6 Current Position: (5,1)

H(n): 20.124612,G(n): 6 Current Position: (6,0)

H(n): 20.615528,G(n): 6 Current Position: (0,7)

H(n): 18.439089,G(n): 7 Current Position: (1,6)

H(n): 18.384776,G(n): 7 Current Position: (2,5)

H(n): 18.439089,G(n): 7 Current Position: (3,4)

H(n): 18.601075,G(n): 7 Current Position: (4,3)

H(n): 18.867962,G(n): 7 Current Position: (5,2)

H(n): 19.235384,G(n): 7 Current Position: (6,1)

H(n): 19.697716,G(n): 7 Current Position: (7,0)

H(n): 20.248457,G(n): 7 Current Position: (0,8)

H(n): 17.804494,G(n): 8 Current Position: (1,7)

H(n): 17.691806,G(n): 8 Current Position: (2,6)

H(n): 17.691806,G(n): 8 Current Position: (4,4)

H(n): 18.027756,G(n): 8 Current Position: (5,3)

H(n): 18.357560,G(n): 8 Current Position: (6,2)

H(n): 18.788294,G(n): 8 Current Position: (7,1)

H(n): 19.313208,G(n): 8 Current Position: (8,0)

H(n): 19.924859,G(n): 8 Current Position: (0,9)

H(n): 17.204651,G(n): 9 Current Position: (1,8)

H(n): 17.029386,G(n): 9 Current Position: (2,7)

H(n): 16.970563,G(n): 9 Current Position: (3,6)

H(n): 17.029386,G(n): 9 Current Position: (4,5)

H(n): 17.204651,G(n): 9 Current Position: (5,4)

H(n): 17.492856,G(n): 9 Current Position: (6,3)

H(n): 17.888544,G(n): 9 Current Position: (7,2)

H(n): 18.384776,G(n): 9 Current Position: (8,1)

H(n): 18.973666,G(n): 9 Current Position: (9,0)

H(n): 19.646883,G(n): 9 Current Position: (0,10)

H(n): 16.643317,G(n): 10 Current Position: (1,9)

H(n): 16.401219,G(n): 10 Current Position: (2,8)

H(n): 16.278821,G(n): 10 Current Position: (3,7)

H(n): 16.278821,G(n): 10 Current Position: (4,6)

H(n): 16.401219,G(n): 10 Current Position: (5,5)

H(n): 16.643317,G(n): 10 Current Position: (6,4)

H(n): 17.000000,G(n): 10 Current Position: (7,3)

H(n): 17.464249,G(n): 10 Current Position: (8,2)

H(n): 18.027756,G(n): 10 Current Position: (9,1)

H(n): 18.681542,G(n): 10 Current Position: (10,0)

H(n): 19.416488,G(n): 10 Current Position: (0,11)

H(n): 16.124515,G(n): 11 Current Position: (1,10)

H(n): 15.811388,G(n): 11 Current Position: (2,9)

H(n): 15.620499,G(n): 11 Current Position: (3,8)

H(n): 15.556349,G(n): 11 Current Position: (4,7)

H(n): 15.620499,G(n): 11 Current Position: (5,6)

H(n): 15.811388,G(n): 11 Current Position: (6,5)

H(n): 16.124515,G(n): 11 Current Position: (7,4)

H(n): 16.552945,G(n): 11 Current Position: (8,3)

H(n): 17.088007,G(n): 11 Current Position: (9,2)

H(n): 17.720045,G(n): 11 Current Position: (10,1)

H(n): 18.439089,G(n): 11 Current Position: (11,0)

H(n): 19.235384,G(n): 11 Current Position: (0,12)

H(n): 15.652476,G(n): 12 Current Position: (1,11)

H(n): 15.264338,G(n): 12 Current Position: (2,10)

H(n): 15.000000,G(n): 12 Current Position: (3,9)

H(n): 14.866069,G(n): 12 Current Position: (4,8)

H(n): 14.866069,G(n): 12 Current Position: (5,7)

H(n): 15.000000,G(n): 12 Current Position: (6,6)

H(n): 15.264338,G(n): 12 Current Position: (7,5)

H(n): 15.652476,G(n): 12 Current Position: (8,4)

H(n): 16.155494,G(n): 12 Current Position: (9,3)

H(n): 16.763055,G(n): 12 Current Position: (10,2)

H(n): 17.464249,G(n): 12 Current Position: (11,1)

H(n): 18.248288,G(n): 12 Current Position: (12,0)

H(n): 19.104973,G(n): 12 Current Position: (0,13)

H(n): 15.231546,G(n): 13 Current Position: (1,12)

H(n): 14.764823,G(n): 13 Current Position: (2,11)

H(n): 14.422205,G(n): 13 Current Position: (3,10)

H(n): 14.212670,G(n): 13 Current Position: (4,9)

H(n): 14.142136,G(n): 13 Current Position: (5,8)

H(n): 14.212670,G(n): 13 Current Position: (6,7)

H(n): 14.422205,G(n): 13 Current Position: (7,6)

H(n): 14.764823,G(n): 13 Current Position: (8,5)

H(n): 15.231546,G(n): 13 Current Position: (9,4)

H(n): 15.811388,G(n): 13 Current Position: (10,3)

H(n): 16.492423,G(n): 13 Current Position: (11,2)

H(n): 17.262677,G(n): 13 Current Position: (12,1)

H(n): 18.110770,G(n): 13 Current Position: (13,0)

H(n): 19.026298,G(n): 13 Current Position: (0,14)

H(n): 14.866069,G(n): 14 Current Position: (1,13)

H(n): 14.317821,G(n): 14 Current Position: (2,12)

H(n): 13.892444,G(n): 14 Current Position: (3,11)

H(n): 13.601471,G(n): 14 Current Position: (4,10)

H(n): 13.453624,G(n): 14 Current Position: (5,9)

H(n): 13.453624,G(n): 14 Current Position: (6,8)

H(n): 13.601471,G(n): 14 Current Position: (7,7)

H(n): 13.892444,G(n): 14 Current Position: (8,6)

H(n): 14.317821,G(n): 14 Current Position: (9,5)

H(n): 14.866069,G(n): 14 Current Position: (10,4)

H(n): 15.524175,G(n): 14 Current Position: (11,3)

H(n): 16.278821,G(n): 14 Current Position: (12,2)

H(n): 17.117243,G(n): 14 Current Position: (13,1)

H(n): 18.027756,G(n): 14 Current Position: (14,0)

H(n): 19.000000,G(n): 14 Current Position: (0,15)

H(n): 14.560220,G(n): 15 Current Position: (1,14)

H(n): 13.928388,G(n): 15 Current Position: (2,13)

H(n): 13.416408,G(n): 15 Current Position: (3,12)

H(n): 13.038405,G(n): 15 Current Position: (4,11)

H(n): 12.806248,G(n): 15 Current Position: (5,10)

H(n): 12.727922,G(n): 15 Current Position: (6,9)

H(n): 12.806248,G(n): 15 Current Position: (8,7)

H(n): 13.416408,G(n): 15 Current Position: (9,6)

H(n): 13.928388,G(n): 15 Current Position: (10,5)

H(n): 14.560220,G(n): 15 Current Position: (11,4)

H(n): 15.297059,G(n): 15 Current Position: (12,3)

H(n): 16.124515,G(n): 15 Current Position: (13,2)

H(n): 17.029386,G(n): 15 Current Position: (14,1)

H(n): 18.000000,G(n): 15 Current Position: (0,16)

H(n): 14.317821,G(n): 16 Current Position: (1,15)

H(n): 13.601471,G(n): 16 Current Position: (2,14)

H(n): 13.000000,G(n): 16 Current Position: (3,13)

H(n): 12.529964,G(n): 16 Current Position: (4,12)

H(n): 12.206556,G(n): 16 Current Position: (5,11)

H(n): 12.041595,G(n): 16 Current Position: (6,10)

H(n): 12.041595,G(n): 16 Current Position: (7,9)

H(n): 12.206556,G(n): 16 Current Position: (8,8)

H(n): 12.529964,G(n): 16 Current Position: (9,7)

H(n): 13.000000,G(n): 16 Current Position: (10,6)

H(n): 13.601471,G(n): 16 Current Position: (11,5)

H(n): 14.317821,G(n): 16 Current Position: (12,4)

H(n): 15.132746,G(n): 16 Current Position: (13,3)

H(n): 16.031220,G(n): 16 Current Position: (14,2)

H(n): 17.000000,G(n): 16 Current Position: (0,17)

H(n): 14.142136,G(n): 17 Current Position: (1,16)

H(n): 13.341664,G(n): 17 Current Position: (2,15)

H(n): 12.649111,G(n): 17 Current Position: (3,14)

H(n): 12.083046,G(n): 17 Current Position: (4,13)

H(n): 11.661904,G(n): 17 Current Position: (5,12)

H(n): 11.401754,G(n): 17 Current Position: (6,11)

H(n): 11.313708,G(n): 17 Current Position: (7,10)

H(n): 11.401754,G(n): 17 Current Position: (8,9)

H(n): 11.661904,G(n): 17 Current Position: (9,8)

H(n): 12.083046,G(n): 17 Current Position: (10,7)

H(n): 12.649111,G(n): 17 Current Position: (11,6)

H(n): 13.341664,G(n): 17 Current Position: (12,5)

H(n): 14.142136,G(n): 17 Current Position: (13,4)

H(n): 15.033296,G(n): 17 Current Position: (14,3)

H(n): 16.000000,G(n): 17 Current Position: (0,18)

H(n): 14.035669,G(n): 18 Current Position: (1,17)

H(n): 13.152946,G(n): 18 Current Position: (2,16)

H(n): 12.369317,G(n): 18 Current Position: (3,15)

H(n): 11.704700,G(n): 18 Current Position: (4,14)

H(n): 11.180340,G(n): 18 Current Position: (5,13)

H(n): 10.816654,G(n): 18 Current Position: (6,12)

H(n): 10.630146,G(n): 18 Current Position: (7,11)

H(n): 10.630146,G(n): 18 Current Position: (8,10)

H(n): 10.816654,G(n): 18 Current Position: (9,9)

H(n): 11.180340,G(n): 18 Current Position: (10,8)

H(n): 11.704700,G(n): 18 Current Position: (11,7)

H(n): 12.369317,G(n): 18 Current Position: (12,6)

H(n): 13.152946,G(n): 18 Current Position: (13,5)

H(n): 14.035669,G(n): 18 Current Position: (14,4)

H(n): 15.000000,G(n): 18 Current Position: (0,19)

H(n): 14.000000,G(n): 19 Current Position: (1,18)

H(n): 13.038405,G(n): 19 Current Position: (2,17)

H(n): 12.165525,G(n): 19 Current Position: (3,16)

H(n): 11.401754,G(n): 19 Current Position: (4,15)

H(n): 10.770330,G(n): 19 Current Position: (5,14)

H(n): 10.295630,G(n): 19 Current Position: (6,13)

H(n): 10.000000,G(n): 19 Current Position: (7,12)

H(n): 9.899495,G(n): 19 Current Position: (8,11)

H(n): 10.000000,G(n): 19 Current Position: (9,10)

H(n): 10.295630,G(n): 19 Current Position: (10,9)

H(n): 10.770330,G(n): 19 Current Position: (11,8)

H(n): 11.401754,G(n): 19 Current Position: (12,7)

H(n): 12.165525,G(n): 19 Current Position: (13,6)

H(n): 13.038405,G(n): 19 Current Position: (14,5)

H(n): 14.000000,G(n): 19 Current Position: (1,19)

H(n): 13.000000,G(n): 20 Current Position: (2,18)

H(n): 12.041595,G(n): 20 Current Position: (3,17)

H(n): 11.180340,G(n): 20 Current Position: (4,16)

H(n): 10.440307,G(n): 20 Current Position: (5,15)

H(n): 9.848858,G(n): 20 Current Position: (6,14)

H(n): 9.433981,G(n): 20 Current Position: (7,13)

H(n): 9.219544,G(n): 20 Current Position: (8,12)

H(n): 9.219544,G(n): 20 Current Position: (9,11)

H(n): 9.433981,G(n): 20 Current Position: (10,10)

H(n): 9.848858,G(n): 20 Current Position: (11,9)

H(n): 10.440307,G(n): 20 Current Position: (12,8)

H(n): 11.180340,G(n): 20 Current Position: (13,7)

H(n): 12.041595,G(n): 20 Current Position: (14,6)

H(n): 13.000000,G(n): 20 Current Position: (2,19)

H(n): 12.000000,G(n): 21 Current Position: (3,18)

H(n): 11.045361,G(n): 21 Current Position: (4,17)

H(n): 10.198039,G(n): 21 Current Position: (5,16)

H(n): 9.486833,G(n): 21 Current Position: (6,15)

H(n): 8.944272,G(n): 21 Current Position: (7,14)

H(n): 8.602325,G(n): 21 Current Position: (8,13)

H(n): 8.485281,G(n): 21 Current Position: (9,12)

H(n): 8.602325,G(n): 21 Current Position: (10,11)

H(n): 8.944272,G(n): 21 Current Position: (11,10)

H(n): 9.486833,G(n): 21 Current Position: (12,9)

H(n): 10.198039,G(n): 21 Current Position: (13,8)

H(n): 11.045361,G(n): 21 Current Position: (14,7)

H(n): 12.000000,G(n): 21 Current Position: (3,19)

H(n): 11.000000,G(n): 22 Current Position: (4,18)

H(n): 10.049876,G(n): 22 Current Position: (5,17)

H(n): 9.219544,G(n): 22 Current Position: (6,16)

H(n): 8.544004,G(n): 22 Current Position: (7,15)

H(n): 8.062258,G(n): 22 Current Position: (8,14)

H(n): 7.810250,G(n): 22 Current Position: (9,13)

H(n): 7.810250,G(n): 22 Current Position: (10,12)

H(n): 8.062258,G(n): 22 Current Position: (11,11)

H(n): 8.544004,G(n): 22 Current Position: (12,10)

H(n): 9.219544,G(n): 22 Current Position: (13,9)

H(n): 10.049876,G(n): 22 Current Position: (14,8)

H(n): 11.000000,G(n): 22 Current Position: (4,19)

H(n): 10.000000,G(n): 23 Current Position: (5,18)

H(n): 9.055385,G(n): 23 Current Position: (6,17)

H(n): 8.246211,G(n): 23 Current Position: (7,16)

H(n): 7.615773,G(n): 23 Current Position: (8,15)

H(n): 7.211103,G(n): 23 Current Position: (9,14)

H(n): 7.071068,G(n): 23 Current Position: (10,13)

H(n): 7.211103,G(n): 23 Current Position: (11,12)

H(n): 7.615773,G(n): 23 Current Position: (12,11)

H(n): 8.246211,G(n): 23 Current Position: (13,10)

H(n): 9.055385,G(n): 23 Current Position: (14,9)

H(n): 10.000000,G(n): 23 Current Position: (5,19)

H(n): 9.000000,G(n): 24 Current Position: (6,18)

H(n): 8.062258,G(n): 24 Current Position: (7,17)

H(n): 7.280110,G(n): 24 Current Position: (8,16)

H(n): 6.708204,G(n): 24 Current Position: (9,15)

H(n): 6.403124,G(n): 24 Current Position: (10,14)

H(n): 6.403124,G(n): 24 Current Position: (11,13)

H(n): 6.708204,G(n): 24 Current Position: (12,12)

H(n): 7.280110,G(n): 24 Current Position: (13,11)

H(n): 8.062258,G(n): 24 Current Position: (14,10)

H(n): 9.000000,G(n): 24 Current Position: (6,19)

H(n): 8.000000,G(n): 25 Current Position: (7,18)

H(n): 7.071068,G(n): 25 Current Position: (8,17)

H(n): 6.324555,G(n): 25 Current Position: (9,16)

H(n): 5.830952,G(n): 25 Current Position: (10,15)

H(n): 5.656854,G(n): 25 Current Position: (11,14)

H(n): 5.830952,G(n): 25 Current Position: (12,13)

H(n): 6.324555,G(n): 25 Current Position: (13,12)

H(n): 7.071068,G(n): 25 Current Position: (14,11)

H(n): 8.000000,G(n): 25 Current Position: (7,19)

H(n): 7.000000,G(n): 26 Current Position: (8,18)

H(n): 6.082763,G(n): 26 Current Position: (9,17)

H(n): 5.385165,G(n): 26 Current Position: (10,16)

H(n): 5.000000,G(n): 26 Current Position: (11,15)

H(n): 5.000000,G(n): 26 Current Position: (12,14)

H(n): 5.385165,G(n): 26 Current Position: (13,13)

H(n): 6.082763,G(n): 26 Current Position: (14,12)

H(n): 7.000000,G(n): 26 Current Position: (8,19)

H(n): 6.000000,G(n): 27 Current Position: (9,18)

H(n): 5.099020,G(n): 27 Current Position: (10,17)

H(n): 4.472136,G(n): 27 Current Position: (11,16)

H(n): 4.242641,G(n): 27 Current Position: (12,15)

H(n): 4.472136,G(n): 27 Current Position: (13,14)

H(n): 5.099020,G(n): 27 Current Position: (14,13)

H(n): 6.000000,G(n): 27 Current Position: (9,19)

H(n): 5.000000,G(n): 28 Current Position: (10,18)

H(n): 4.123106,G(n): 28 Current Position: (11,17)

H(n): 3.605551,G(n): 28 Current Position: (12,16)

H(n): 3.605551,G(n): 28 Current Position: (13,15)

H(n): 4.123106,G(n): 28 Current Position: (14,14)

H(n): 5.000000,G(n): 28 Current Position: (10,19)

H(n): 4.000000,G(n): 29 Current Position: (11,18)

H(n): 3.162278,G(n): 29 Current Position: (12,17)

H(n): 2.828427,G(n): 29 Current Position: (13,16)

H(n): 3.162278,G(n): 29 Current Position: (14,15)

H(n): 4.000000,G(n): 29 Current Position: (11,19)

H(n): 3.000000,G(n): 30 Current Position: (12,18)

H(n): 2.236068,G(n): 30 Current Position: (13,17)

H(n): 2.236068,G(n): 30 Current Position: (14,16)

H(n): 3.000000,G(n): 30 Current Position: (12,19)

H(n): 2.000000,G(n): 31 Current Position: (13,18)

H(n): 1.414214,G(n): 31 Current Position: (14,17)

H(n): 2.000000,G(n): 31 Current Position: (14,18)

H(n): 1.000000,G(n): 32 Current Position: (14,19)

H(n): 0.000000,G(n): 33

f(n) Completed Array: [ 23 23 24 24 24 24 25 25 25 26 26 27 27 28 28 29 30 31 32 33 24 0 24 24 24 25 25 25 26 26 26 27 27 28 28 29 30 31 32 33 24 24 0 25 25 25 25 25 26 26 27 27 27 28 29 29 30 31 32 33 24 25 25 25 25 0 26 26 26 26 27 27 28 28 29 29 30 31 32 33 25 25 25 25 26 26 26 26 26 27 27 27 28 28 29 29 30 31 32 33 26 26 26 26 26 26 26 27 27 27 27 28 28 28 29 29 30 31 32 33 26 26 26 26 27 27 27 27 27 27 28 28 28 29 29 29 30 31 32 33 27 27 27 27 27 27 27 27 0 28 28 28 28 29 29 30 30 31 32 33 27 27 28 28 28 28 28 28 28 28 28 29 29 29 29 30 30 31 32 33 28 28 28 28 28 28 28 29 29 29 29 29 29 29 30 30 30 31 32 33 29 29 29 29 29 29 29 29 29 29 29 29 30 30 30 30 31 31 32 33 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 31 31 31 32 33 31 31 31 31 31 31 31 31 31 31 31 31 31 31 31 31 31 31 32 33 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 32 0 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 33 ]

Process finished with exit code 0

Two Directional

/home/arya11/ClionProjects/graphCol/cmake-build-debug/graphCol

two directional Depth First Search Route: Current Position: (0,0)

Current Position: (14,19)

Current Position: (0,1)

Current Position: (1,0)

Current Position: (14,18)

Searching Route1: Searching Route2: Queue 1:[ 1 20 ]

Queue 2:[ 298 ]

Current Position: (0,2)

Current Position: (13,18)

Current Position: (14,17)

Searching Route1: Searching Route2: Queue 1:[ 20 2 ]

Queue 2:[ 278 297 ]

Current Position: (2,0)

Current Position: (12,18)

Current Position: (13,17)

Searching Route1: Searching Route2: Queue 1:[ 2 40 ]

Queue 2:[ 297 258 277 ]

Current Position: (0,3)

Current Position: (1,2)

Current Position: (14,16)

Searching Route1: Searching Route2: Queue 1:[ 40 3 22 ]

Queue 2:[ 258 277 296 ]

Current Position: (2,1)

Current Position: (3,0)

Current Position: (11,18)

Current Position: (12,19)

Current Position: (12,17)

Searching Route1: Searching Route2: Queue 1:[ 3 22 41 60 ]

Queue 2:[ 277 296 238 259 257 ]

Current Position: (0,4)

Current Position: (1,3)

Current Position: (13,16)

Searching Route1: Searching Route2: Queue 1:[ 22 41 60 4 23 ]

Queue 2:[ 296 238 259 257 276 ]

Current Position: (14,15)

Searching Route1: Searching Route2: Queue 1:[ 41 60 4 23 ]

Queue 2:[ 238 259 257 276 295 ]

Current Position: (3,1)

Current Position: (10,18)

Current Position: (11,19)

Current Position: (11,17)

Searching Route1: Searching Route2: Queue 1:[ 60 4 23 61 ]

Queue 2:[ 259 257 276 295 218 239 237 ]

Current Position: (4,0)

Searching Route1: Searching Route2: Queue 1:[ 4 23 61 80 ]

Queue 2:[ 257 276 295 218 239 237 ]

Current Position: (0,5)

Current Position: (1,4)

Current Position: (12,16)

Searching Route1: Searching Route2: Queue 1:[ 23 61 80 5 24 ]

Queue 2:[ 276 295 218 239 237 256 ]

Current Position: (2,3)

Current Position: (13,15)

Searching Route1: Searching Route2: Queue 1:[ 61 80 5 24 43 ]

Queue 2:[ 295 218 239 237 256 275 ]

Current Position: (3,2)

Current Position: (4,1)

Current Position: (14,14)

Searching Route1: Searching Route2: Queue 1:[ 80 5 24 43 62 81 ]

Queue 2:[ 218 239 237 256 275 294 ]

Current Position: (5,0)

Current Position: (9,18)

Current Position: (10,19)

Current Position: (10,17)

Searching Route1: Searching Route2: Queue 1:[ 5 24 43 62 81 100 ]

Queue 2:[ 239 237 256 275 294 198 219 217 ]

Current Position: (0,6)

Current Position: (1,5)

Searching Route1: Searching Route2: Queue 1:[ 24 43 62 81 100 6 25 ]

Queue 2:[ 237 256 275 294 198 219 217 ]

Current Position: (2,4)

Current Position: (11,16)

Searching Route1: Searching Route2: Queue 1:[ 43 62 81 100 6 25 44 ]

Queue 2:[ 256 275 294 198 219 217 236 ]

Current Position: (3,3)

Current Position: (12,15)

Searching Route1: Searching Route2: Queue 1:[ 62 81 100 6 25 44 63 ]

Queue 2:[ 275 294 198 219 217 236 255 ]

Current Position: (4,2)

Current Position: (13,14)

Searching Route1: Searching Route2: Queue 1:[ 81 100 6 25 44 63 82 ]

Queue 2:[ 294 198 219 217 236 255 274 ]

Current Position: (5,1)

Current Position: (14,13)

Searching Route1: Searching Route2: Queue 1:[ 100 6 25 44 63 82 101 ]

Queue 2:[ 198 219 217 236 255 274 293 ]

Current Position: (6,0)

Current Position: (8,18)

Current Position: (9,19)

Current Position: (9,17)

Searching Route1: Searching Route2: Queue 1:[ 6 25 44 63 82 101 120 ]

Queue 2:[ 219 217 236 255 274 293 178 199 197 ]

Current Position: (0,7)

Current Position: (1,6)

Searching Route1: Searching Route2: Queue 1:[ 25 44 63 82 101 120 7 26 ]

Queue 2:[ 217 236 255 274 293 178 199 197 ]

Current Position: (2,5)

Current Position: (10,16)

Searching Route1: Searching Route2: Queue 1:[ 44 63 82 101 120 7 26 45 ]

Queue 2:[ 236 255 274 293 178 199 197 216 ]

Current Position: (3,4)

Current Position: (11,15)

Searching Route1: Searching Route2: Queue 1:[ 63 82 101 120 7 26 45 64 ]

Queue 2:[ 255 274 293 178 199 197 216 235 ]

Current Position: (4,3)

Current Position: (12,14)

Searching Route1: Searching Route2: Queue 1:[ 82 101 120 7 26 45 64 83 ]

Queue 2:[ 274 293 178 199 197 216 235 254 ]

Current Position: (5,2)

Current Position: (13,13)

Searching Route1: Searching Route2: Queue 1:[ 101 120 7 26 45 64 83 102 ]

Queue 2:[ 293 178 199 197 216 235 254 273 ]

Current Position: (6,1)

Current Position: (14,12)

Searching Route1: Searching Route2: Queue 1:[ 120 7 26 45 64 83 102 121 ]

Queue 2:[ 178 199 197 216 235 254 273 292 ]

Current Position: (7,0)

Current Position: (7,18)

Current Position: (8,19)

Current Position: (8,17)

Searching Route1: Searching Route2: Queue 1:[ 7 26 45 64 83 102 121 140 ]

Queue 2:[ 199 197 216 235 254 273 292 158 179 177 ]

Current Position: (0,8)

Current Position: (1,7)

Searching Route1: Searching Route2: Queue 1:[ 26 45 64 83 102 121 140 8 27 ]

Queue 2:[ 197 216 235 254 273 292 158 179 177 ]

Current Position: (2,6)

Current Position: (9,16)

Searching Route1: Searching Route2: Queue 1:[ 45 64 83 102 121 140 8 27 46 ]

Queue 2:[ 216 235 254 273 292 158 179 177 196 ]

Current Position: (10,15)

Searching Route1: Searching Route2: Queue 1:[ 64 83 102 121 140 8 27 46 ]

Queue 2:[ 235 254 273 292 158 179 177 196 215 ]

Current Position: (4,4)

Current Position: (11,14)

Searching Route1: Searching Route2: Queue 1:[ 83 102 121 140 8 27 46 84 ]

Queue 2:[ 254 273 292 158 179 177 196 215 234 ]

Current Position: (5,3)

Current Position: (12,13)

Searching Route1: Searching Route2: Queue 1:[ 102 121 140 8 27 46 84 103 ]

Queue 2:[ 273 292 158 179 177 196 215 234 253 ]

Current Position: (6,2)

Current Position: (13,12)

Searching Route1: Searching Route2: Queue 1:[ 121 140 8 27 46 84 103 122 ]

Queue 2:[ 292 158 179 177 196 215 234 253 272 ]

Current Position: (7,1)

Current Position: (14,11)

Searching Route1: Searching Route2: Queue 1:[ 140 8 27 46 84 103 122 141 ]

Queue 2:[ 158 179 177 196 215 234 253 272 291 ]

Current Position: (8,0)

Current Position: (6,18)

Current Position: (7,19)

Current Position: (7,17)

Searching Route1: Searching Route2: Queue 1:[ 8 27 46 84 103 122 141 160 ]

Queue 2:[ 179 177 196 215 234 253 272 291 138 159 157 ]

Current Position: (0,9)

Current Position: (1,8)

Searching Route1: Searching Route2: Queue 1:[ 27 46 84 103 122 141 160 9 28 ]

Queue 2:[ 177 196 215 234 253 272 291 138 159 157 ]

Current Position: (2,7)

Current Position: (8,16)

Searching Route1: Searching Route2: Queue 1:[ 46 84 103 122 141 160 9 28 47 ]

Queue 2:[ 196 215 234 253 272 291 138 159 157 176 ]

Current Position: (3,6)

Current Position: (9,15)

Searching Route1: Searching Route2: Queue 1:[ 84 103 122 141 160 9 28 47 66 ]

Queue 2:[ 215 234 253 272 291 138 159 157 176 195 ]

Current Position: (4,5)

Current Position: (5,4)

Current Position: (10,14)

Searching Route1: Searching Route2: Queue 1:[ 103 122 141 160 9 28 47 66 85 104 ]

Queue 2:[ 234 253 272 291 138 159 157 176 195 214 ]

Current Position: (6,3)

Current Position: (11,13)

Searching Route1: Searching Route2: Queue 1:[ 122 141 160 9 28 47 66 85 104 123 ]

Queue 2:[ 253 272 291 138 159 157 176 195 214 233 ]

Current Position: (7,2)

Current Position: (12,12)

Searching Route1: Searching Route2: Queue 1:[ 141 160 9 28 47 66 85 104 123 142 ]

Queue 2:[ 272 291 138 159 157 176 195 214 233 252 ]

Current Position: (8,1)

Current Position: (13,11)

Searching Route1: Searching Route2: Queue 1:[ 160 9 28 47 66 85 104 123 142 161 ]

Queue 2:[ 291 138 159 157 176 195 214 233 252 271 ]

Current Position: (9,0)

Current Position: (14,10)

Searching Route1: Searching Route2: Queue 1:[ 9 28 47 66 85 104 123 142 161 180 ]

Queue 2:[ 138 159 157 176 195 214 233 252 271 290 ]

Current Position: (0,10)

Current Position: (1,9)

Current Position: (5,18)

Current Position: (6,19)

Current Position: (6,17)

Searching Route1: Searching Route2: Queue 1:[ 28 47 66 85 104 123 142 161 180 10 29 ]

Queue 2:[ 159 157 176 195 214 233 252 271 290 118 139 137 ]

Current Position: (2,8)

Searching Route1: Searching Route2: Queue 1:[ 47 66 85 104 123 142 161 180 10 29 48 ]

Queue 2:[ 157 176 195 214 233 252 271 290 118 139 137 ]

Current Position: (3,7)

Current Position: (7,16)

Searching Route1: Searching Route2: Queue 1:[ 66 85 104 123 142 161 180 10 29 48 67 ]

Queue 2:[ 176 195 214 233 252 271 290 118 139 137 156 ]

Current Position: (4,6)

Current Position: (8,15)

Searching Route1: Searching Route2: Queue 1:[ 85 104 123 142 161 180 10 29 48 67 86 ]

Queue 2:[ 195 214 233 252 271 290 118 139 137 156 175 ]

Current Position: (5,5)

Current Position: (9,14)

Searching Route1: Searching Route2: Queue 1:[ 104 123 142 161 180 10 29 48 67 86 105 ]

Queue 2:[ 214 233 252 271 290 118 139 137 156 175 194 ]

Current Position: (6,4)

Current Position: (10,13)

Searching Route1: Searching Route2: Queue 1:[ 123 142 161 180 10 29 48 67 86 105 124 ]

Queue 2:[ 233 252 271 290 118 139 137 156 175 194 213 ]

Current Position: (7,3)

Current Position: (11,12)

Searching Route1: Searching Route2: Queue 1:[ 142 161 180 10 29 48 67 86 105 124 143 ]

Queue 2:[ 252 271 290 118 139 137 156 175 194 213 232 ]

Current Position: (8,2)

Current Position: (12,11)

Searching Route1: Searching Route2: Queue 1:[ 161 180 10 29 48 67 86 105 124 143 162 ]

Queue 2:[ 271 290 118 139 137 156 175 194 213 232 251 ]

Current Position: (9,1)

Current Position: (13,10)

Searching Route1: Searching Route2: Queue 1:[ 180 10 29 48 67 86 105 124 143 162 181 ]

Queue 2:[ 290 118 139 137 156 175 194 213 232 251 270 ]

Current Position: (10,0)

Current Position: (14,9)

Searching Route1: Searching Route2: Queue 1:[ 10 29 48 67 86 105 124 143 162 181 200 ]

Queue 2:[ 118 139 137 156 175 194 213 232 251 270 289 ]

Current Position: (0,11)

Current Position: (1,10)

Current Position: (4,18)

Current Position: (5,19)

Current Position: (5,17)

Searching Route1: Searching Route2: Queue 1:[ 29 48 67 86 105 124 143 162 181 200 11 30 ]

Queue 2:[ 139 137 156 175 194 213 232 251 270 289 98 119 117 ]

Current Position: (2,9)

Searching Route1: Searching Route2: Queue 1:[ 48 67 86 105 124 143 162 181 200 11 30 49 ]

Queue 2:[ 137 156 175 194 213 232 251 270 289 98 119 117 ]

Current Position: (3,8)

Current Position: (6,16)

Searching Route1: Searching Route2: Queue 1:[ 67 86 105 124 143 162 181 200 11 30 49 68 ]

Queue 2:[ 156 175 194 213 232 251 270 289 98 119 117 136 ]

Current Position: (4,7)

Current Position: (7,15)

Searching Route1: Searching Route2: Queue 1:[ 86 105 124 143 162 181 200 11 30 49 68 87 ]

Queue 2:[ 175 194 213 232 251 270 289 98 119 117 136 155 ]

Current Position: (5,6)

Current Position: (8,14)

Searching Route1: Searching Route2: Queue 1:[ 105 124 143 162 181 200 11 30 49 68 87 106 ]

Queue 2:[ 194 213 232 251 270 289 98 119 117 136 155 174 ]

Current Position: (6,5)

Current Position: (9,13)

Searching Route1: Searching Route2: Queue 1:[ 124 143 162 181 200 11 30 49 68 87 106 125 ]

Queue 2:[ 213 232 251 270 289 98 119 117 136 155 174 193 ]

Current Position: (7,4)

Current Position: (10,12)

Searching Route1: Searching Route2: Queue 1:[ 143 162 181 200 11 30 49 68 87 106 125 144 ]

Queue 2:[ 232 251 270 289 98 119 117 136 155 174 193 212 ]

Current Position: (8,3)

Current Position: (11,11)

Searching Route1: Searching Route2: Queue 1:[ 162 181 200 11 30 49 68 87 106 125 144 163 ]

Queue 2:[ 251 270 289 98 119 117 136 155 174 193 212 231 ]

Current Position: (9,2)

Current Position: (12,10)

Searching Route1: Searching Route2: Queue 1:[ 181 200 11 30 49 68 87 106 125 144 163 182 ]

Queue 2:[ 270 289 98 119 117 136 155 174 193 212 231 250 ]

Current Position: (10,1)

Current Position: (13,9)

Searching Route1: Searching Route2: Queue 1:[ 200 11 30 49 68 87 106 125 144 163 182 201 ]

Queue 2:[ 289 98 119 117 136 155 174 193 212 231 250 269 ]

Current Position: (11,0)

Current Position: (14,8)

Searching Route1: Searching Route2: Queue 1:[ 11 30 49 68 87 106 125 144 163 182 201 220 ]

Queue 2:[ 98 119 117 136 155 174 193 212 231 250 269 288 ]

Current Position: (0,12)

Current Position: (1,11)

Current Position: (3,18)

Current Position: (4,19)

Current Position: (4,17)

Searching Route1: Searching Route2: Queue 1:[ 30 49 68 87 106 125 144 163 182 201 220 12 31 ]

Queue 2:[ 119 117 136 155 174 193 212 231 250 269 288 78 99 97 ]

Current Position: (2,10)

Searching Route1: Searching Route2: Queue 1:[ 49 68 87 106 125 144 163 182 201 220 12 31 50 ]

Queue 2:[ 117 136 155 174 193 212 231 250 269 288 78 99 97 ]

Current Position: (3,9)

Current Position: (5,16)

Searching Route1: Searching Route2: Queue 1:[ 68 87 106 125 144 163 182 201 220 12 31 50 69 ]

Queue 2:[ 136 155 174 193 212 231 250 269 288 78 99 97 116 ]

Current Position: (4,8)

Current Position: (6,15)

Searching Route1: Searching Route2: Queue 1:[ 87 106 125 144 163 182 201 220 12 31 50 69 88 ]

Queue 2:[ 155 174 193 212 231 250 269 288 78 99 97 116 135 ]

Current Position: (5,7)

Current Position: (7,14)

Searching Route1: Searching Route2: Queue 1:[ 106 125 144 163 182 201 220 12 31 50 69 88 107 ]

Queue 2:[ 174 193 212 231 250 269 288 78 99 97 116 135 154 ]

Current Position: (6,6)

Current Position: (8,13)

Searching Route1: Searching Route2: Queue 1:[ 125 144 163 182 201 220 12 31 50 69 88 107 126 ]

Queue 2:[ 193 212 231 250 269 288 78 99 97 116 135 154 173 ]

Current Position: (7,5)

Current Position: (9,12)

Searching Route1: Searching Route2: Queue 1:[ 144 163 182 201 220 12 31 50 69 88 107 126 145 ]

Queue 2:[ 212 231 250 269 288 78 99 97 116 135 154 173 192 ]

Current Position: (8,4)

Current Position: (10,11)

Searching Route1: Searching Route2: Queue 1:[ 163 182 201 220 12 31 50 69 88 107 126 145 164 ]

Queue 2:[ 231 250 269 288 78 99 97 116 135 154 173 192 211 ]

Current Position: (9,3)

Current Position: (11,10)

Searching Route1: Searching Route2: Queue 1:[ 182 201 220 12 31 50 69 88 107 126 145 164 183 ]

Queue 2:[ 250 269 288 78 99 97 116 135 154 173 192 211 230 ]

Current Position: (10,2)

Current Position: (12,9)

Searching Route1: Searching Route2: Queue 1:[ 201 220 12 31 50 69 88 107 126 145 164 183 202 ]

Queue 2:[ 269 288 78 99 97 116 135 154 173 192 211 230 249 ]

Current Position: (11,1)

Current Position: (13,8)

Searching Route1: Searching Route2: Queue 1:[ 220 12 31 50 69 88 107 126 145 164 183 202 221 ]

Queue 2:[ 288 78 99 97 116 135 154 173 192 211 230 249 268 ]

Current Position: (12,0)

Current Position: (14,7)

Searching Route1: Searching Route2: Queue 1:[ 12 31 50 69 88 107 126 145 164 183 202 221 240 ]

Queue 2:[ 78 99 97 116 135 154 173 192 211 230 249 268 287 ]

Current Position: (0,13)

Current Position: (1,12)

Current Position: (2,18)

Current Position: (3,19)

Current Position: (3,17)

Searching Route1: Searching Route2: Queue 1:[ 31 50 69 88 107 126 145 164 183 202 221 240 13 32 ]

Queue 2:[ 99 97 116 135 154 173 192 211 230 249 268 287 58 79 77 ]

Current Position: (2,11)

Searching Route1: Searching Route2: Queue 1:[ 50 69 88 107 126 145 164 183 202 221 240 13 32 51 ]

Queue 2:[ 97 116 135 154 173 192 211 230 249 268 287 58 79 77 ]

Current Position: (3,10)

Current Position: (4,16)

Searching Route1: Searching Route2: Queue 1:[ 69 88 107 126 145 164 183 202 221 240 13 32 51 70 ]

Queue 2:[ 116 135 154 173 192 211 230 249 268 287 58 79 77 96 ]

Current Position: (4,9)

Current Position: (5,15)

Searching Route1: Searching Route2: Queue 1:[ 88 107 126 145 164 183 202 221 240 13 32 51 70 89 ]

Queue 2:[ 135 154 173 192 211 230 249 268 287 58 79 77 96 115 ]

Current Position: (5,8)

Current Position: (6,14)

Searching Route1: Searching Route2: Queue 1:[ 107 126 145 164 183 202 221 240 13 32 51 70 89 108 ]

Queue 2:[ 154 173 192 211 230 249 268 287 58 79 77 96 115 134 ]

Current Position: (6,7)

Current Position: (7,13)

Searching Route1: Searching Route2: Queue 1:[ 126 145 164 183 202 221 240 13 32 51 70 89 108 127 ]

Queue 2:[ 173 192 211 230 249 268 287 58 79 77 96 115 134 153 ]

Current Position: (7,6)

Current Position: (8,12)

Searching Route1: Searching Route2: Queue 1:[ 145 164 183 202 221 240 13 32 51 70 89 108 127 146 ]

Queue 2:[ 192 211 230 249 268 287 58 79 77 96 115 134 153 172 ]

Current Position: (8,5)

Current Position: (9,11)

Searching Route1: Searching Route2: Queue 1:[ 164 183 202 221 240 13 32 51 70 89 108 127 146 165 ]

Queue 2:[ 211 230 249 268 287 58 79 77 96 115 134 153 172 191 ]

Current Position: (9,4)

Current Position: (10,10)

Searching Route1: Searching Route2: Queue 1:[ 183 202 221 240 13 32 51 70 89 108 127 146 165 184 ]

Queue 2:[ 230 249 268 287 58 79 77 96 115 134 153 172 191 210 ]

Current Position: (10,3)

Current Position: (11,9)

Searching Route1: Searching Route2: Queue 1:[ 202 221 240 13 32 51 70 89 108 127 146 165 184 203 ]

Queue 2:[ 249 268 287 58 79 77 96 115 134 153 172 191 210 229 ]

Current Position: (11,2)

Current Position: (12,8)

Searching Route1: Searching Route2: Queue 1:[ 221 240 13 32 51 70 89 108 127 146 165 184 203 222 ]

Queue 2:[ 268 287 58 79 77 96 115 134 153 172 191 210 229 248 ]

Current Position: (12,1)

Current Position: (13,7)

Searching Route1: Searching Route2: Queue 1:[ 240 13 32 51 70 89 108 127 146 165 184 203 222 241 ]

Queue 2:[ 287 58 79 77 96 115 134 153 172 191 210 229 248 267 ]

Current Position: (13,0)

Current Position: (14,6)

Searching Route1: Searching Route2: Queue 1:[ 13 32 51 70 89 108 127 146 165 184 203 222 241 260 ]

Queue 2:[ 58 79 77 96 115 134 153 172 191 210 229 248 267 286 ]

Current Position: (0,14)

Current Position: (1,13)

Current Position: (1,18)

Current Position: (2,19)

Current Position: (2,17)

Searching Route1: Searching Route2: Queue 1:[ 32 51 70 89 108 127 146 165 184 203 222 241 260 14 33 ]

Queue 2:[ 79 77 96 115 134 153 172 191 210 229 248 267 286 38 59 57 ]

Current Position: (2,12)

Searching Route1: Searching Route2: Queue 1:[ 51 70 89 108 127 146 165 184 203 222 241 260 14 33 52 ]

Queue 2:[ 77 96 115 134 153 172 191 210 229 248 267 286 38 59 57 ]

Current Position: (3,11)

Current Position: (3,16)

Searching Route1: Searching Route2: Queue 1:[ 70 89 108 127 146 165 184 203 222 241 260 14 33 52 71 ]

Queue 2:[ 96 115 134 153 172 191 210 229 248 267 286 38 59 57 76 ]

Current Position: (4,10)

Current Position: (4,15)

Searching Route1: Searching Route2: Queue 1:[ 89 108 127 146 165 184 203 222 241 260 14 33 52 71 90 ]

Queue 2:[ 115 134 153 172 191 210 229 248 267 286 38 59 57 76 95 ]

Current Position: (5,9)

Current Position: (5,14)

Searching Route1: Searching Route2: Queue 1:[ 108 127 146 165 184 203 222 241 260 14 33 52 71 90 109 ]

Queue 2:[ 134 153 172 191 210 229 248 267 286 38 59 57 76 95 114 ]

Current Position: (6,8)

Current Position: (6,13)

Searching Route1: Searching Route2: Queue 1:[ 127 146 165 184 203 222 241 260 14 33 52 71 90 109 128 ]

Queue 2:[ 153 172 191 210 229 248 267 286 38 59 57 76 95 114 133 ]

Current Position: (7,7)

Current Position: (7,12)

Searching Route1: Searching Route2: Queue 1:[ 146 165 184 203 222 241 260 14 33 52 71 90 109 128 147 ]

Queue 2:[ 172 191 210 229 248 267 286 38 59 57 76 95 114 133 152 ]

Current Position: (8,6)

Current Position: (8,11)

Searching Route1: Searching Route2: Queue 1:[ 165 184 203 222 241 260 14 33 52 71 90 109 128 147 166 ]

Queue 2:[ 191 210 229 248 267 286 38 59 57 76 95 114 133 152 171 ]

Current Position: (9,5)

Current Position: (9,10)

Searching Route1: Searching Route2: Queue 1:[ 184 203 222 241 260 14 33 52 71 90 109 128 147 166 185 ]

Queue 2:[ 210 229 248 267 286 38 59 57 76 95 114 133 152 171 190 ]

Current Position: (10,4)

Current Position: (10,9)

Searching Route1: Searching Route2: Queue 1:[ 203 222 241 260 14 33 52 71 90 109 128 147 166 185 204 ]

Queue 2:[ 229 248 267 286 38 59 57 76 95 114 133 152 171 190 209 ]

Current Position: (11,3)

Current Position: (11,8)

Searching Route1: Searching Route2: Queue 1:[ 222 241 260 14 33 52 71 90 109 128 147 166 185 204 223 ]

Queue 2:[ 248 267 286 38 59 57 76 95 114 133 152 171 190 209 228 ]

Current Position: (12,2)

Current Position: (12,7)

Searching Route1: Searching Route2: Queue 1:[ 241 260 14 33 52 71 90 109 128 147 166 185 204 223 242 ]

Queue 2:[ 267 286 38 59 57 76 95 114 133 152 171 190 209 228 247 ]

Current Position: (13,1)

Current Position: (13,6)

Searching Route1: Searching Route2: Queue 1:[ 260 14 33 52 71 90 109 128 147 166 185 204 223 242 261 ]

Queue 2:[ 286 38 59 57 76 95 114 133 152 171 190 209 228 247 266 ]

Current Position: (14,0)

Current Position: (14,5)

Searching Route1: Searching Route2: Queue 1:[ 14 33 52 71 90 109 128 147 166 185 204 223 242 261 280 ]

Queue 2:[ 38 59 57 76 95 114 133 152 171 190 209 228 247 266 285 ]

Current Position: (0,15)

Current Position: (1,14)

Current Position: (0,18)

Current Position: (1,19)

Current Position: (1,17)

Searching Route1: Searching Route2: Queue 1:[ 33 52 71 90 109 128 147 166 185 204 223 242 261 280 15 34 ]

Queue 2:[ 59 57 76 95 114 133 152 171 190 209 228 247 266 285 18 39 37 ]

Current Position: (2,13)

Searching Route1: Searching Route2: Queue 1:[ 52 71 90 109 128 147 166 185 204 223 242 261 280 15 34 53 ]

Queue 2:[ 57 76 95 114 133 152 171 190 209 228 247 266 285 18 39 37 ]

Current Position: (3,12)

Current Position: (2,16)

Searching Route1: Searching Route2: Queue 1:[ 71 90 109 128 147 166 185 204 223 242 261 280 15 34 53 72 ]

Queue 2:[ 76 95 114 133 152 171 190 209 228 247 266 285 18 39 37 56 ]

Current Position: (4,11)

Current Position: (3,15)

Searching Route1: Searching Route2: Queue 1:[ 90 109 128 147 166 185 204 223 242 261 280 15 34 53 72 91 ]

Queue 2:[ 95 114 133 152 171 190 209 228 247 266 285 18 39 37 56 75 ]

Current Position: (5,10)

Current Position: (4,14)

Searching Route1: Searching Route2: Queue 1:[ 109 128 147 166 185 204 223 242 261 280 15 34 53 72 91 110 ]

Queue 2:[ 114 133 152 171 190 209 228 247 266 285 18 39 37 56 75 94 ]

Current Position: (6,9)

Current Position: (5,13)

Searching Route1: Searching Route2: Queue 1:[ 128 147 166 185 204 223 242 261 280 15 34 53 72 91 110 129 ]

Queue 2:[ 133 152 171 190 209 228 247 266 285 18 39 37 56 75 94 113 ]

Current Position: (6,12)

Searching Route1: Searching Route2: Queue 1:[ 147 166 185 204 223 242 261 280 15 34 53 72 91 110 129 ]

Queue 2:[ 152 171 190 209 228 247 266 285 18 39 37 56 75 94 113 132 ]

Current Position: (8,7)

Current Position: (7,11)

Searching Route1: Searching Route2: Queue 1:[ 166 185 204 223 242 261 280 15 34 53 72 91 110 129 167 ]

Queue 2:[ 171 190 209 228 247 266 285 18 39 37 56 75 94 113 132 151 ]

Current Position: (9,6)

Current Position: (8,10)

Searching Route1: Searching Route2: Queue 1:[ 185 204 223 242 261 280 15 34 53 72 91 110 129 167 186 ]

Queue 2:[ 190 209 228 247 266 285 18 39 37 56 75 94 113 132 151 170 ]

Current Position: (10,5)

Current Position: (9,9)

Searching Route1: Searching Route2: Queue 1:[ 204 223 242 261 280 15 34 53 72 91 110 129 167 186 205 ]

Queue 2:[ 209 228 247 266 285 18 39 37 56 75 94 113 132 151 170 189 ]

Current Position: (11,4)

Current Position: (10,8)

Searching Route1: Searching Route2: Queue 1:[ 223 242 261 280 15 34 53 72 91 110 129 167 186 205 224 ]

Queue 2:[ 228 247 266 285 18 39 37 56 75 94 113 132 151 170 189 208 ]

Current Position: (12,3)

Current Position: (11,7)

Searching Route1: Searching Route2: Queue 1:[ 242 261 280 15 34 53 72 91 110 129 167 186 205 224 243 ]

Queue 2:[ 247 266 285 18 39 37 56 75 94 113 132 151 170 189 208 227 ]

Current Position: (13,2)

Current Position: (12,6)

Searching Route1: Searching Route2: Queue 1:[ 261 280 15 34 53 72 91 110 129 167 186 205 224 243 262 ]

Queue 2:[ 266 285 18 39 37 56 75 94 113 132 151 170 189 208 227 246 ]

Current Position: (14,1)

Current Position: (13,5)

Searching Route1: Searching Route2: Queue 1:[ 280 15 34 53 72 91 110 129 167 186 205 224 243 262 281 ]

Queue 2:[ 285 18 39 37 56 75 94 113 132 151 170 189 208 227 246 265 ]

Current Position: (14,4)

Searching Route1: Searching Route2: Queue 1:[ 15 34 53 72 91 110 129 167 186 205 224 243 262 281 ]

Queue 2:[ 18 39 37 56 75 94 113 132 151 170 189 208 227 246 265 284 ]

Current Position: (0,16)

Current Position: (1,15)

Current Position: (0,19)

Current Position: (0,17)

Searching Route1: Searching Route2: Queue 1:[ 34 53 72 91 110 129 167 186 205 224 243 262 281 16 35 ]

Queue 2:[ 39 37 56 75 94 113 132 151 170 189 208 227 246 265 284 19 17 ]

Current Position: (2,14)

Searching Route1: Searching Route2: Queue 1:[ 53 72 91 110 129 167 186 205 224 243 262 281 16 35 54 ]

Queue 2:[ 37 56 75 94 113 132 151 170 189 208 227 246 265 284 19 17 ]

Current Position: (3,13)

Current Position: (1,16)

Searching Route1: Searching Route2: Queue 1:[ 72 91 110 129 167 186 205 224 243 262 281 16 35 54 73 ]

Queue 2:[ 56 75 94 113 132 151 170 189 208 227 246 265 284 19 17 36 ]

Current Position: (4,12)

Current Position: (2,15)

Searching Route1: Searching Route2: Queue 1:[ 91 110 129 167 186 205 224 243 262 281 16 35 54 73 92 ]

Queue 2:[ 75 94 113 132 151 170 189 208 227 246 265 284 19 17 36 55 ]

Current Position: (5,11)

Current Position: (3,14)

Searching Route1: Searching Route2: Queue 1:[ 110 129 167 186 205 224 243 262 281 16 35 54 73 92 111 ]

Queue 2:[ 94 113 132 151 170 189 208 227 246 265 284 19 17 36 55 74 ]

Current Position: (6,10)

Current Position: (4,13)

Searching Route1: Searching Route2: Queue 1:[ 129 167 186 205 224 243 262 281 16 35 54 73 92 111 130 ]

Queue 2:[ 113 132 151 170 189 208 227 246 265 284 19 17 36 55 74 93 ]

Current Position: (7,9)

Current Position: (5,12)

Searching Route1: Searching Route2: Queue 1:[ 167 186 205 224 243 262 281 16 35 54 73 92 111 130 149 ]

Queue 2:[ 132 151 170 189 208 227 246 265 284 19 17 36 55 74 93 112 ]

Current Position: (8,8)

Current Position: (9,7)

Current Position: (6,11)

Searching Route1: Searching Route2: Queue 1:[ 186 205 224 243 262 281 16 35 54 73 92 111 130 149 168 187 ]

Queue 2:[ 151 170 189 208 227 246 265 284 19 17 36 55 74 93 112 131 ]

Current Position: (10,6)

Current Position: (7,10)

Searching Route1: Searching Route2: Queue 1:[ 205 224 243 262 281 16 35 54 73 92 111 130 149 168 187 206 ]

Queue 2:[ 170 189 208 227 246 265 284 19 17 36 55 74 93 112 131 150 ]

Current Position: (11,5)

Current Position: (8,9)

Searching Route1: Searching Route2: Queue 1:[ 224 243 262 281 16 35 54 73 92 111 130 149 168 187 206 225 ]

Queue 2:[ 189 208 227 246 265 284 19 17 36 55 74 93 112 131 150 169 ]

Current Position: (12,4)

Current Position: (9,8)

Searching Route1: Searching Route2: Queue 1:[ 243 262 281 16 35 54 73 92 111 130 149 168 187 206 225 244 ]

Queue 2:[ 208 227 246 265 284 19 17 36 55 74 93 112 131 150 169 188 ]

Current Position: (13,3)

Current Position: (10,7)

Searching Route1: Searching Route2: Queue 1:[ 262 281 16 35 54 73 92 111 130 149 168 187 206 225 244 263 ]

Queue 2:[ 227 246 265 284 19 17 36 55 74 93 112 131 150 169 188 207 ]

Current Position: (14,2)

Current Position: (11,6)

Searching Route1: Searching Route2: Queue 1:[ 281 16 35 54 73 92 111 130 149 168 187 206 225 244 263 282 ]

Queue 2:[ 246 265 284 19 17 36 55 74 93 112 131 150 169 188 207 226 ]

Current Position: (12,5)

Searching Route1: Searching Route2: Queue 1:[ 16 35 54 73 92 111 130 149 168 187 206 225 244 263 282 ]

Queue 2:[ 265 284 19 17 36 55 74 93 112 131 150 169 188 207 226 245 ]

Current Position: (0,17)

Current Position: (1,16)

Current Position: (13,4)

Searching Route1: Searching Route2: Queue 1:[ 35 54 73 92 111 130 149 168 187 206 225 244 263 282 17 36 ]

Queue 2:[ 284 19 17 36 55 74 93 112 131 150 169 188 207 226 245 264 ]

First Route: [ 35 54 73 92 111 130 149 168 187 206 225 244 263 282 17 36 ]

Second Route: [ 284 19 17 36 55 74 93 112 131 150 169 188 207 226 245 264 ]

Process finished with exit code 0

WaterCans:

Breadth First Search (tree) Route:

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fill A:

fill B:

A->B:

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fill A:

fill B:

A->B:

drain A:

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fill A:

fill B:

A->B:

B->A:

drain B:

Process finished with exit code 0

/home/arya11/ClionProjects/graphCol/cmake-build-debug/graphCol

Breadth First Search (tree) Route:

3\*e puzzle

node: 0

5 1 2

3 4 0

6 7 8

node: 1

5 1 0

3 4 2

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node: 2

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6 7 0

node: 3

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6 7 8

node: 4

5 1 2

3 4 0

6 7 8

node: 5

5 0 1

3 4 2

6 7 8

node: 6

5 1 2

3 4 0

6 7 8

node: 7

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6 0 7

node: 8

5 0 2

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6 7 8

node: 9

5 1 2

3 4 0

6 7 8

node: 10

5 1 2

3 7 4

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node: 11

5 1 2

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6 7 8

node: 12

5 1 0

3 4 2

6 7 8

node: 13

5 1 2

3 4 8

6 7 0

node: 14

5 1 2

3 0 4

6 7 8

node: 15

5 1 0

3 4 2

6 7 8

node: 16

5 4 1

3 0 2

6 7 8

node: 17

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node: 18

5 1 0

3 4 2

6 7 8

node: 19

5 1 2

3 4 8

6 7 0

node: 20

5 1 2

3 0 4

6 7 8

node: 21

5 1 2

3 0 8

6 4 7

node: 22

5 1 2

3 4 8

6 7 0

node: 23

5 1 2

3 4 8

0 6 7

node: 24

5 2 0

3 1 4

6 7 8

node: 25

5 1 2

3 0 4

6 7 8

node: 26

0 5 2

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node: 27

5 1 0

3 4 2

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node: 28

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6 7 0

node: 29

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3 0 4

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node: 30

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3 0 4

6 7 8

node: 31

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6 8 0

node: 32

5 1 2

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node: 33

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…

/home/arya11/ClionProjects/graphCol/cmake-build-debug/graphCol

3\*3 puzzle

Depth First Search (Limit: 8) Route: 5 1 2

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Process finished with exit code 0