

Advanced Coding Practice

HW Problem 0-1

2023 Fall, CSE4152
Sogang University



Problem 0. Find all k-path

Count all possible k-paths from the starting point 'S' to the endpoint in a 2D maze. k-path means the length of the path is k. The piece at 'S' can move in 12 directions, including both knight's moves (horizontally and vertically, with one box left/right/up/down), and it can revisit the same location. Once the piece reaches the endpoint, it must stop moving.

Input

3 4 10// rows cols k

S 0 0 0

0 0 1 0

0 E 0 0

Output

#the number of possible k-paths

Problem 1. Coin exchange

For change S , print all possible combinations of coins. There are different values of coins and we have a different number of each coins.

Input

2 15

5 3

2 5

Output

2 // 2 possible cases

5 5 5 // three 5-coins

5 2 2 2 2 2 // one 5-coin and five 2-coins

* Print combinations in the decreasing order. CSE4152 F'23