

Problem J

Score of 2048

Time limit: 3 seconds

Memory limit: 1024 megabytes

Problem Description

2048 is an easy and fun puzzle game. Even if you do not love numbers you will love this game. It is played on a 4×4 grid using the arrows or W, A, S, D keys alternatively. Every time you press a key - all tiles slide. Tiles with the same value that bump into one-another are merged.

When two tiles with the same number collide (0 represents an empty space), these two tiles are merged, and their numbers are added together. The score is calculated by adding the value of each newly formed tile, while the randomly generated 2s do not count toward the score. For example, when two 2s merge to form a 4, the score increases by 4 points, and when two 4s merge to form an 8, the score increases by 8 points. Therefore, if there is an 8 on the board, its score represents 8 points from merging to form the 8, plus 4 points from merging the two 4s, totaling $8 + 4 \times 2 = 16$ points.

Input Format

Input consists of several test cases. The first line of each test case contains one positive integers, n , where n indicates the $n \times n$ grid. The following n lines, each line contains n integers, which indicate the numbers in the given grid. There is a space between two integers.

Output Format

For each test case, output the score.

Technical Specification

- $2 \leq n \leq 10$.

Sample Input 1

4
0 0 0 8
0 8 4 2
0 0 4 4
8 2 4 2

Sample Output 1

64

Almost blank page