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|  | **Corn Fields** | |  |  | | --- | --- | | Prob# | cowfood | | Author | Richard Ho | | Date | 20060223 | | From | USACO November, 2006 Gold Competition | |

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| Problem cowfood: Corn Fields [Richard Ho, 2006]  Farmer John has purchased a lush new rectangular pasture composed  of M by N (1 <= M <= 12; 1 <= N <= 12) square parcels. He wants to  grow some yummy corn for the cows on a number of squares. Regrettably,  some of the squares are infertile and can't be planted. Canny FJ  knows that the cows dislike eating close to each other, so when  choosing which squares to plant, he avoids choosing squares that  are adjacent; no two chosen squares share an edge. He has not yet  made the final choice as to which squares to plant.  Being a very open-minded man, Farmer John wants to consider all  possible options for how to choose the squares for planting. He is  so open-minded that he considers choosing no squares as a valid  option! Please help Farmer John determine the number of ways he  can choose the squares to plant.  PROBLEM NAME: cowfood  INPUT FORMAT:  \* Line 1: Two space-separated integers: M and N  \* Lines 2..M+1: Line i+1 describes row i of the pasture with N  space-separated integers indicating whether a square is  fertile (1 for fertile, 0 for infertile)  SAMPLE INPUT (file cowfood.in):  2 3  1 1 1  0 1 0  OUTPUT FORMAT:  \* Line 1: One integer: the number of ways that FJ can choose the  squares modulo 100,000,000.  SAMPLE OUTPUT (file cowfood.out):  9  OUTPUT DETAILS:  Number the squares as follows:  1 2 3  4  There are four ways to plant only on one squares (1, 2, 3, or 4),  three ways to plant on two squares (13, 14, or 34), 1 way to plant  on three squares (134), and one way to plant on no squares. 4+3+1+1=9. |

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