

The Gridville Garbash problem

Gridville is a perfect city. It is laid out as an $n \times n$ grid and each of n^2 families inhabits its own square. A developer offers to buy $k < n$ plots at a price of one billion Wazooli's per plot. If a plot is bought, the family will move out and the plot will be used for growing Garbash, the most valuable commodity in Grid World. If at any time, a family plot has two Garbash plots adjacent to it¹, the smell of the Garbash will cause them to leave and the developer will buy up the plot for a mere million Wazooli's and start growing Garbash. After, 10 years, the developer agrees to clean up and replace the plots by family homes, **unless** everybody has left.

The developer will not disclose where he plans to put his k initial plots. Should the inhabitants of Gridville take the money, given that they want to get back to normal in 10 years?

¹Plot (x, y) is adjacent to plot (x', y') iff $x = x'$ or $y = y'$.