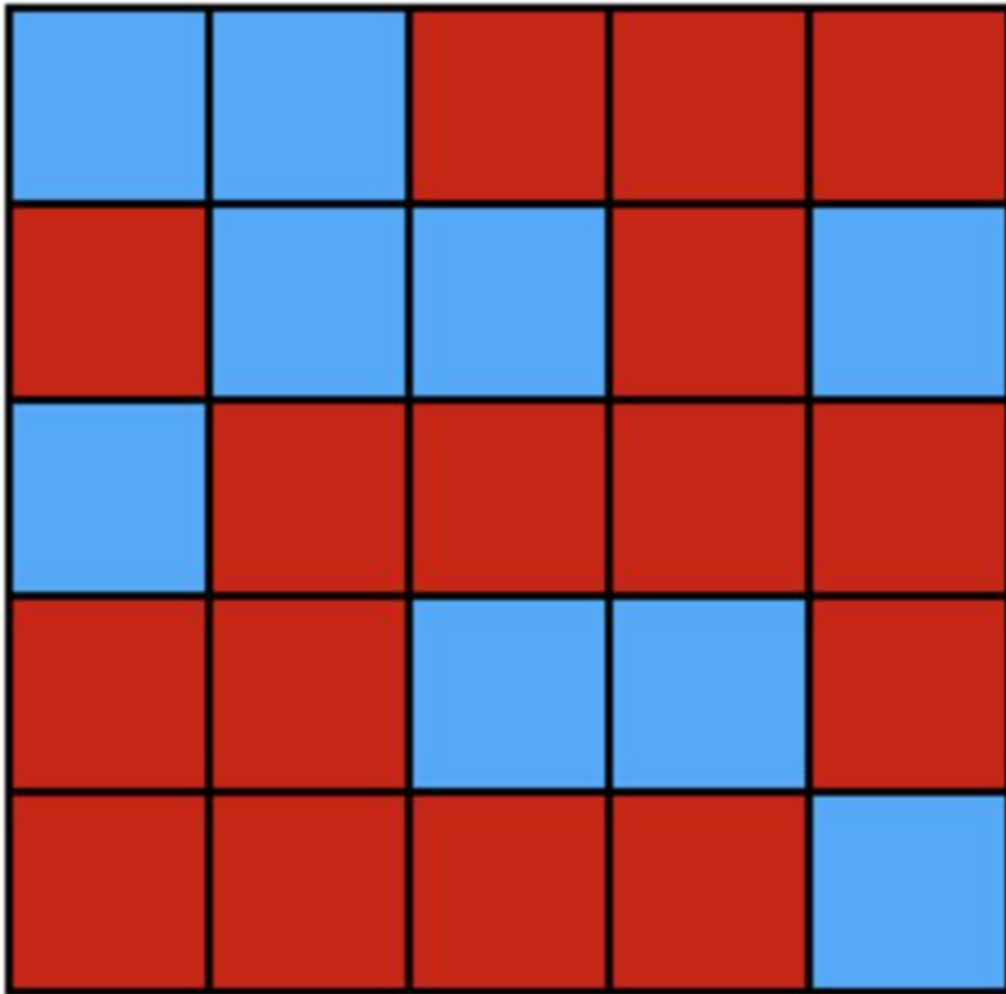


Imagine your job is to draw districts and you happen to be a member of the Blue Party. The grid below gives the locations of 25 voters in a region, which you must divide into five districts with five voters each. In each district, the party with the most votes will win. The districts must be non-overlapping and contiguous (that is, each square in a district must share an edge with at least one other square in the district). Can you draw the districts such that the Blue Party wins more districts than the Red Party?



This is a rough approximation of Colorado's voter preferences, based on county-level results from the 2012 presidential election, in a 14-by-10 grid. Colorado has seven districts, so in this model each would have 20 voters.

What is the most districts that the Red Party could win if you get to draw the districts with the same rules as above? What about the Blue Party? (Assume ties within a district are considered wins for the party of your choice.)

