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Q1

First we need to filter out all the squares which can not be placed any rooks. This can be done by performing the following method, for every bishop mark all the squares along its two diagonals. The left over squares will be the available squares to put the rooks. This problem can be modelled as maximum bipartite-matching problem. In this case we have two sets, the X coordinates as set A, and Y coordinates as set B, the edges between Set A and Set B are the coordinates of the available squares. For example if we have a square filtered from the placeable locations of the bishops which has a coordinates of (5,6), then we add an edges from node 5 of Set A to node 6 of Set B.