
0. Practice sheet for the lecture:
Vorlesung über Graphentheorie (DS II)

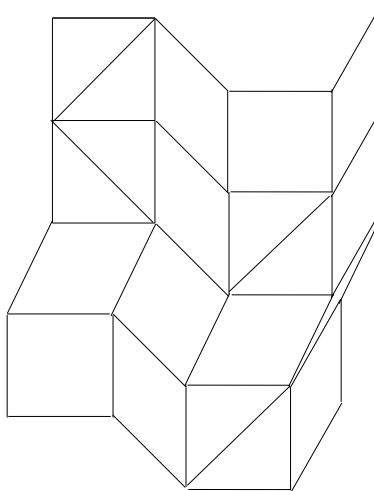
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Delivery date: none.

<http://www.math.tu-berlin.de/~felsner/Lehre/dsII09.html>

- (1) Suppose that you are given an $n \times n$ grid of unit-length rods, jointed at their ends. You may brace some subset S of the small squares with diagonal segments (of length $\sqrt{2}$). Which choices of S suffice to make the grid rigid in the plane?

Example of a grid:



This 4×4 grid is not rigid, since we can rotate the horizontal rods of the second column (beside others). In this example we have four diagonals.

This exercise was taken from Peter Winkler's book: *Mathematical Mind Benders*, A K Peters, Ltd., 2007, ISBN: 978-1-56881-336-3.