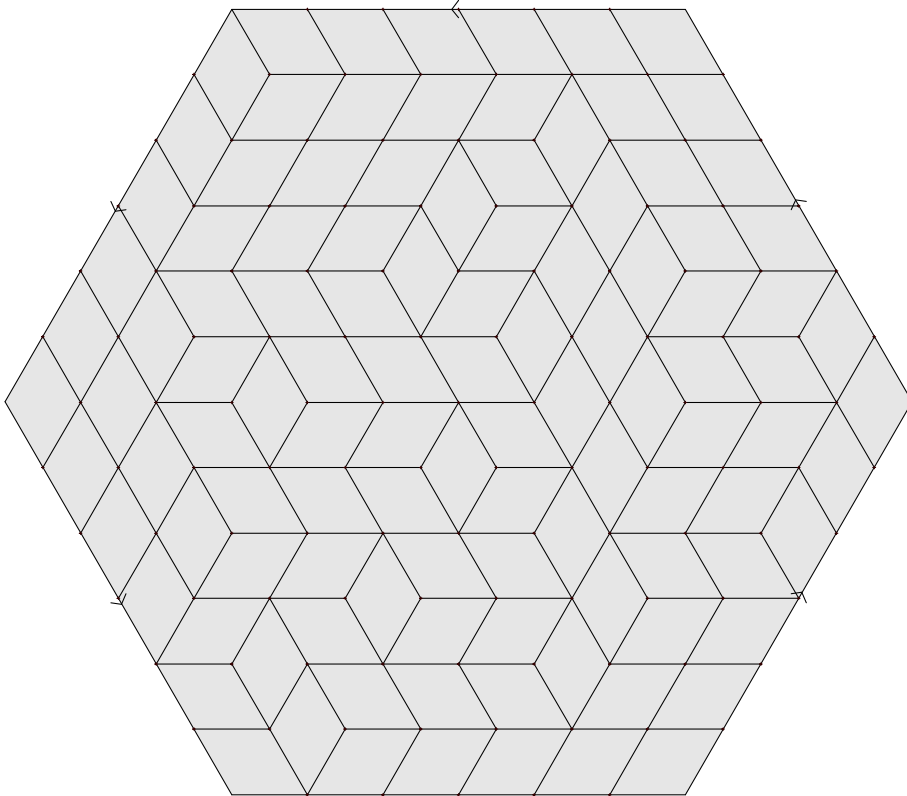
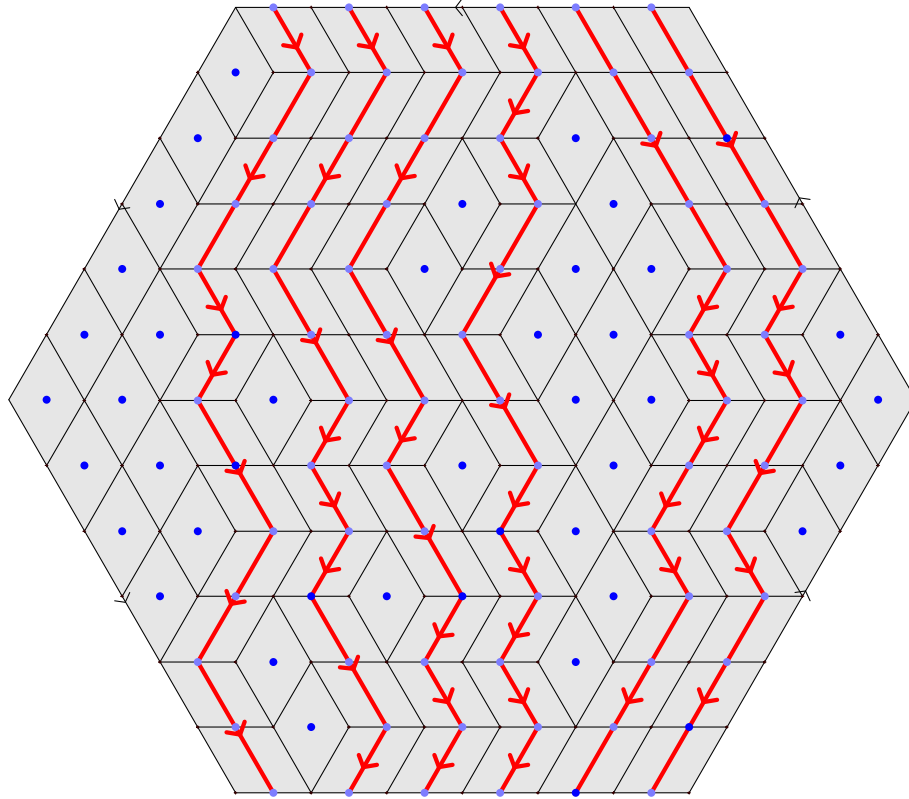


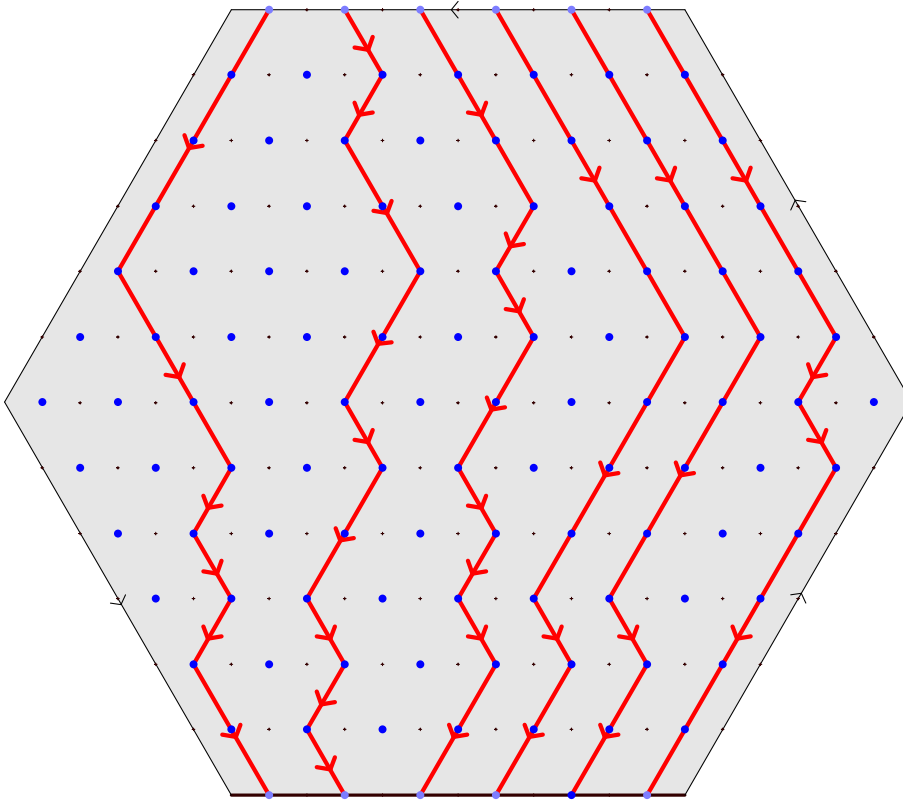
1. Here we have generated a tiling of the regular hexagon with side length 6.



Below we have a routing of the graph G_6 (whose nodes are indicated by the blue dots) induced by that tiling of a regular hexagon.

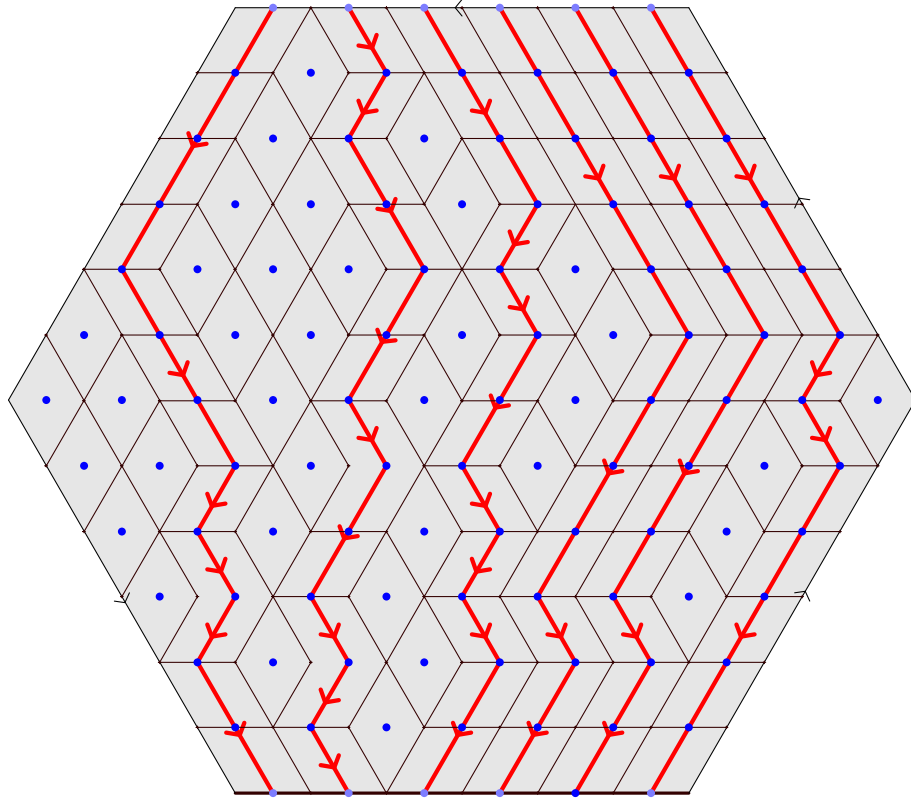


Here we have a routing:

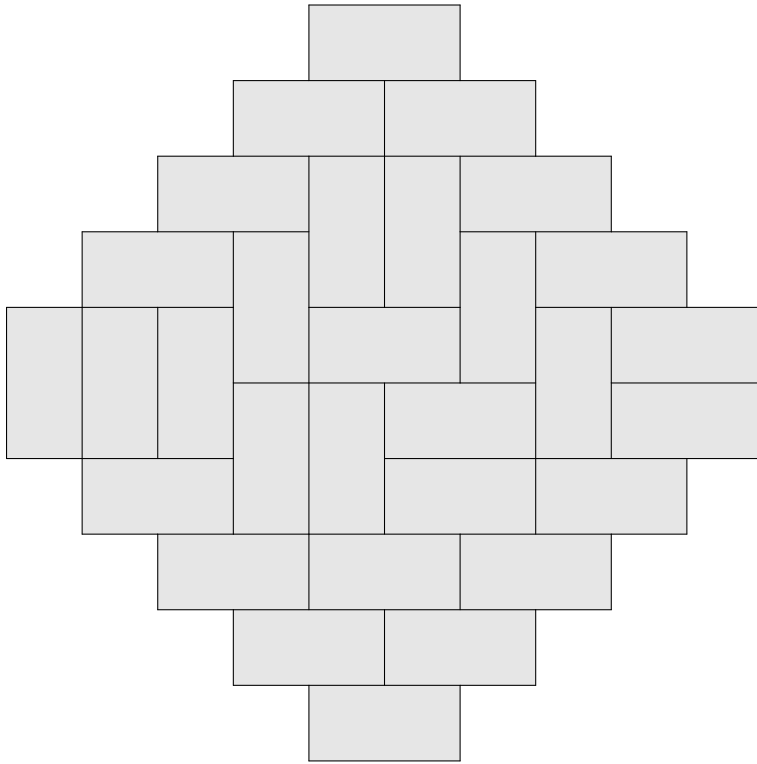


4

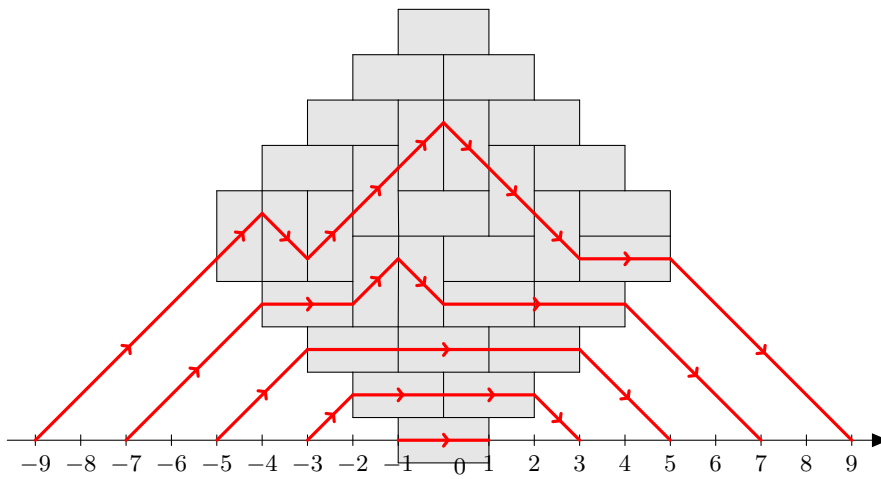
and the tiling that it induces:



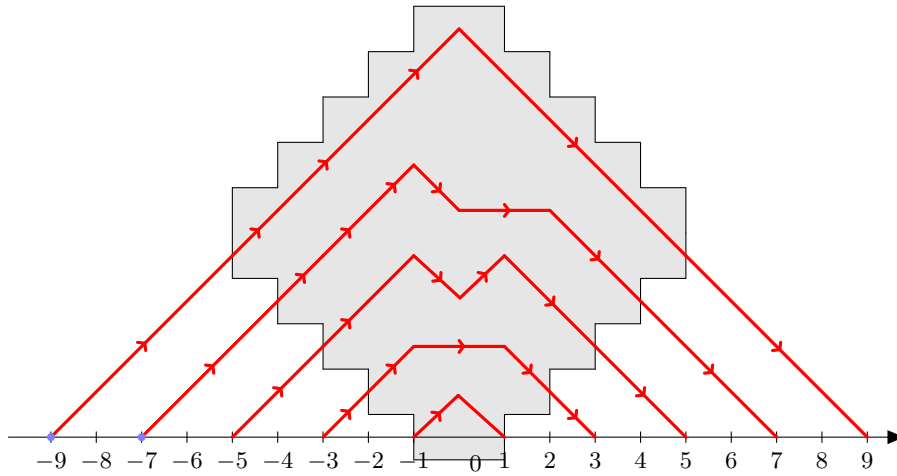
2. Here is a domino tiling of an Aztec Diamond:



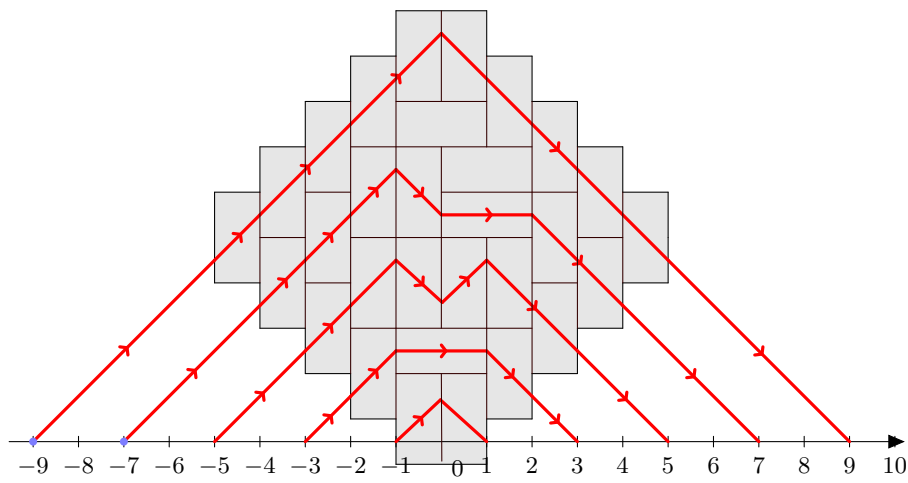
This induces a Schroder routing from $\{-9, -7, -5, -3, -1\}$ to $\{1, 3, 5, 7, 9\}$:



We can also induce a tiling by the following Schroder routing:



which determines this tiling:



Now identifying points where four lines meet with 1, three lines meet with 0 and two lines meet with -1, then rotating the whole thing 45° we get the following two compatible alternating sign matrices:

$$\begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 1 & -1 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 \end{bmatrix} \quad \begin{bmatrix} 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & -1 & 0 & 0 \\ 0 & -1 & 1 & -1 & 0 \\ 0 & 0 & -1 & 0 & 0 \\ -1 & 0 & 0 & 0 & 0 \end{bmatrix}$$

The first of these corresponds to the following square ice model:

