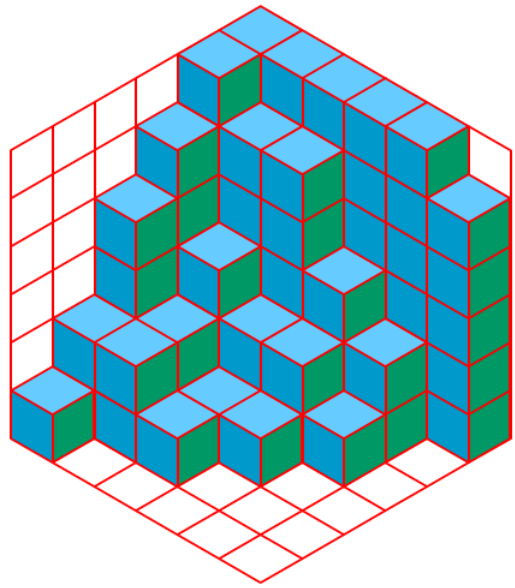
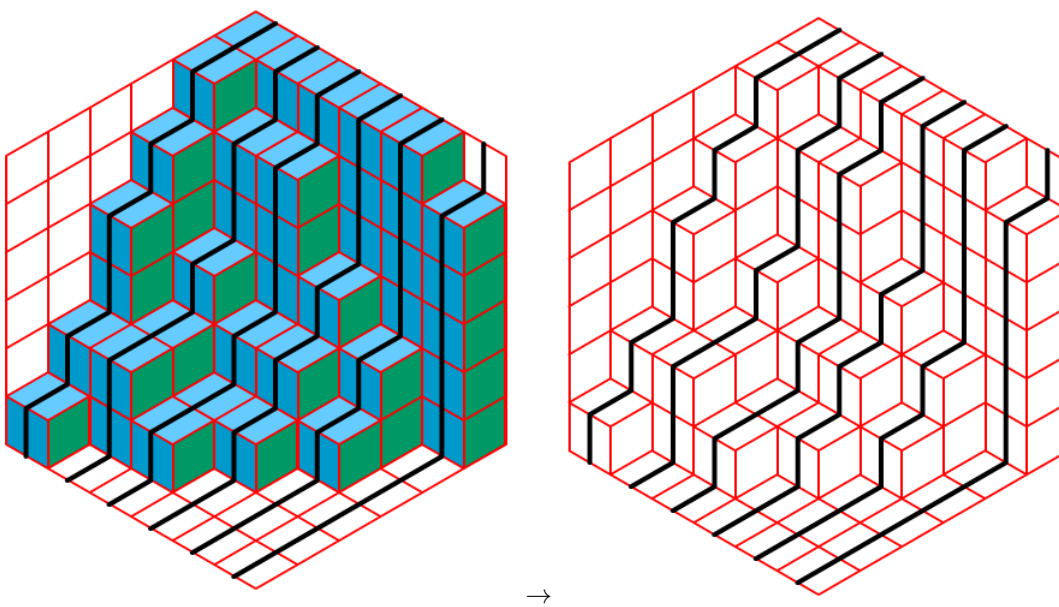
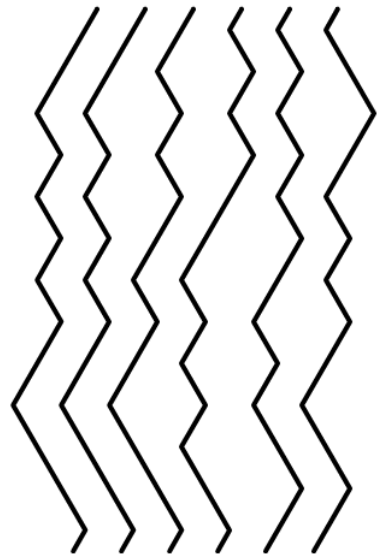
1a Draw a "non-obvious" rhombus tiling of a regular hexagon of size 6.



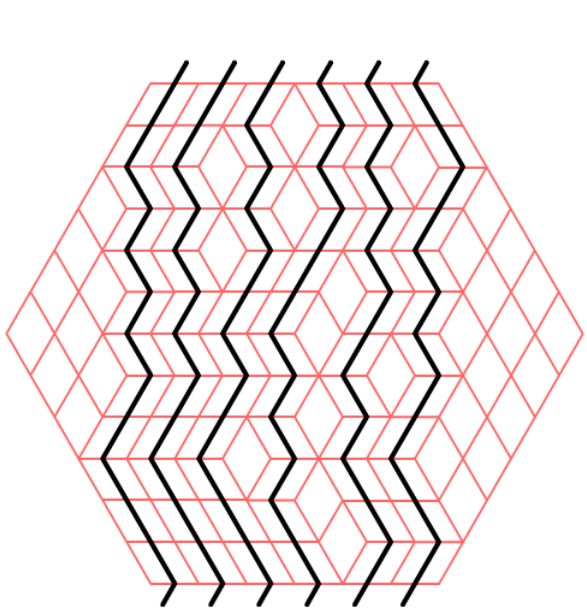
1b On top of it, draw the corresponding routing in the corresponding graph "G_6".



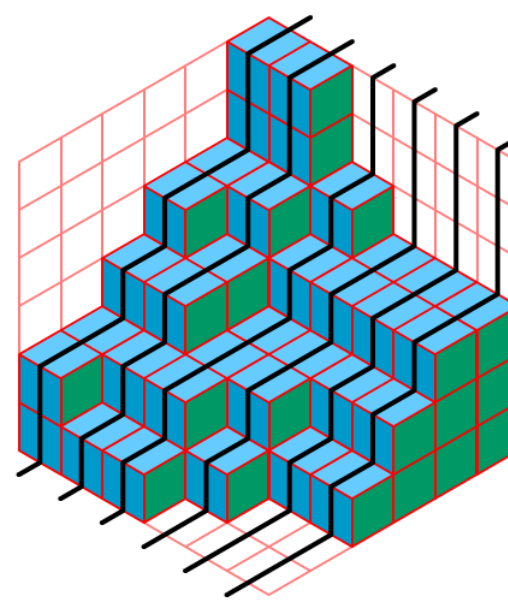
2a Draw a "non-obvious" routing in the graph G_6.



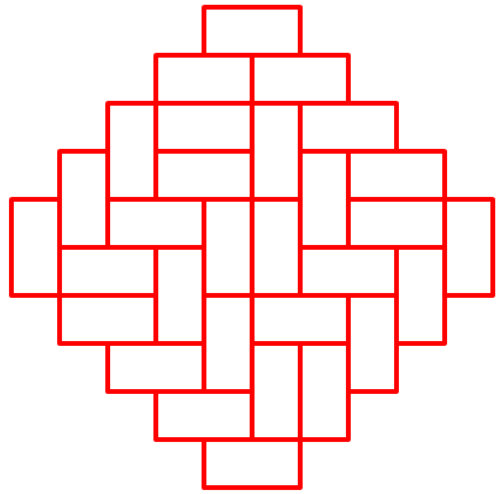
2b On top of it, draw the corresponding rhombus tiling of a regular hexagon of size 6.



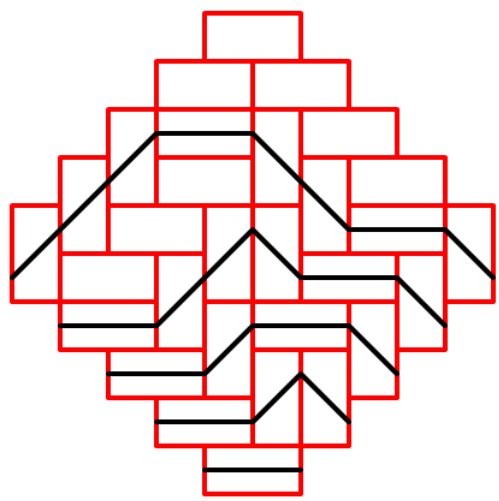
→



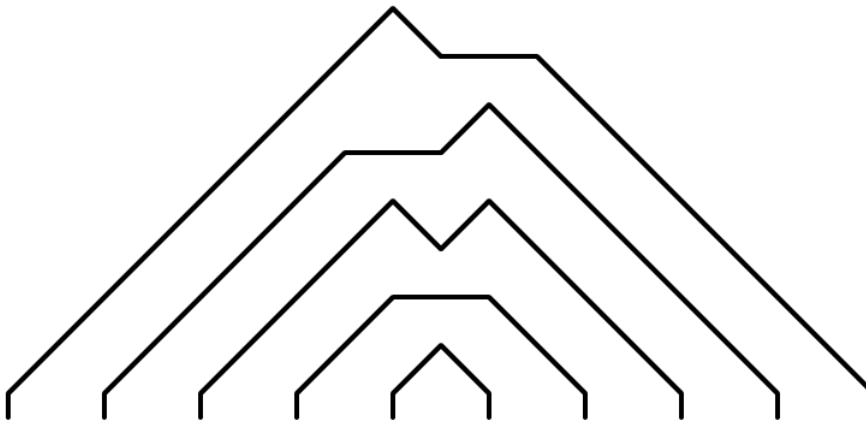
3a Draw a "non-obvious" domino tiling of the "Aztec" diamond AD_5 (of height 10)



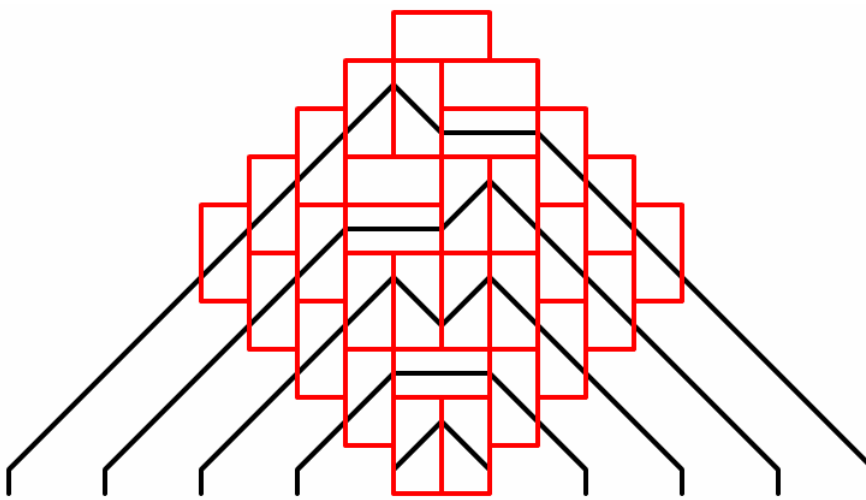
3b On top of it, draw the corresponding routing of 5 Schroder paths from $-i$ to i ($i = 1, 2, 3, 4, 5$)



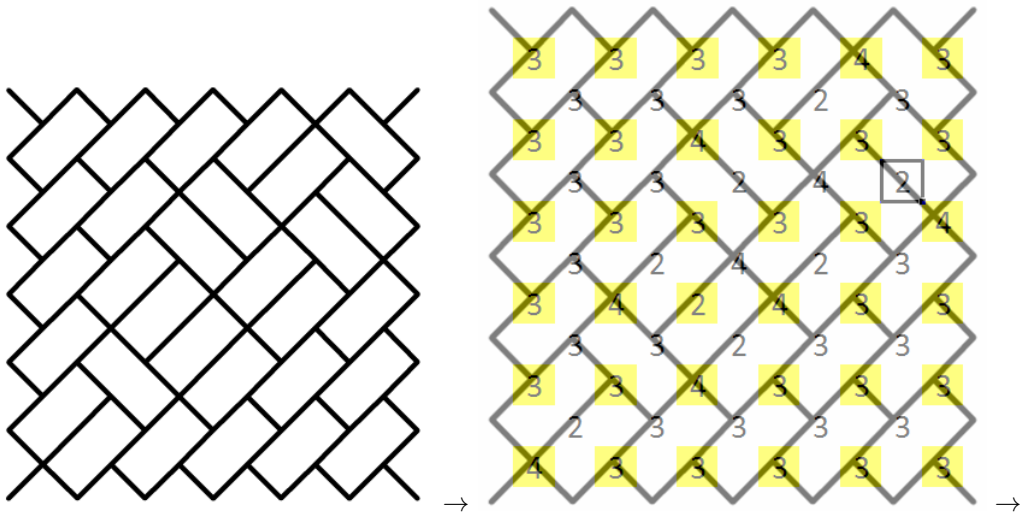
4a Draw a "non-obvious" routing of 5 Schroder paths from $-i$ to $i (i = 1, 2, 3, 4, 5)$



4b On top of it, draw the corresponding domino tiling of the Aztec diamond AD_5.



5a Write down the larger of these two alternating sign matrices.



$$\begin{matrix} 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \\ 0 & 1 & -1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 & 0 \end{matrix}$$

5b For this larger alternating sign matrix, draw the corresponding square ice configuration of H-O-H particles.