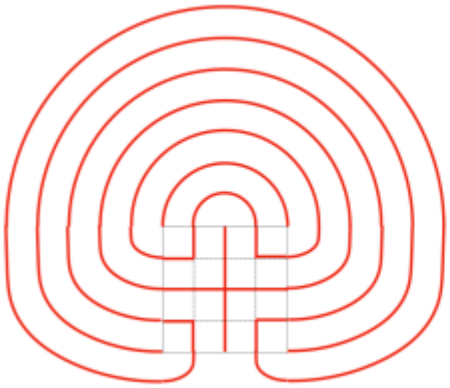
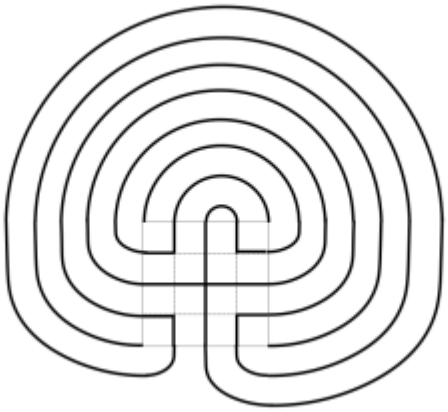
Hacking the unicursal labyrinth

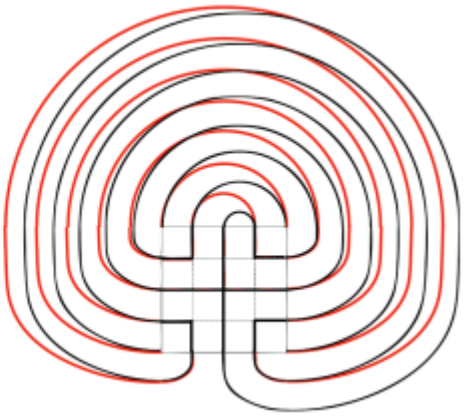
Description

I think mazes are more interesting to draw than to navigate. Draw arcs from each side of a square grid so that they land on the grid point on the opposite side. That produces something interesting. But itâ??s not a labyrinth.

Itâ??s the asymmetry in the procedure that converts the cross-grid-arc motif into a continuous unicursal maze and ensures that the journey covers the entire space within the maze boundary. Iâ??ve overlaid the two forms in the third figure to highlight the difference between them.

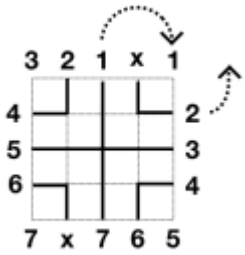






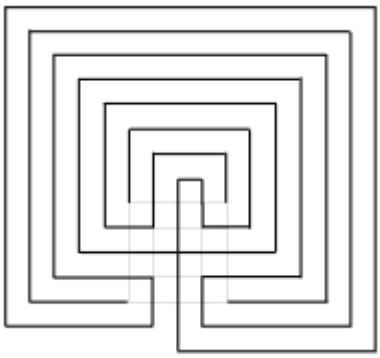
Hereâ??s a variant where the single path leads you in and out again. I found the instructions online at https://www.instructables.com/id/Draw-your-own-labyrinth./ The maze is still unicursal.

Other variants are based on 2, 4, 8+ square grids, as well as triangular grids. The author of the website I derived this from calls the initial grid shape with numbered vertices the *key*. Hereâ??s the key for the maze above. The arrows indicate that the paths should curve over the top of the grid. Points labelled x shouldnâ??t be joined. Iâ??ve redrawn the key here.

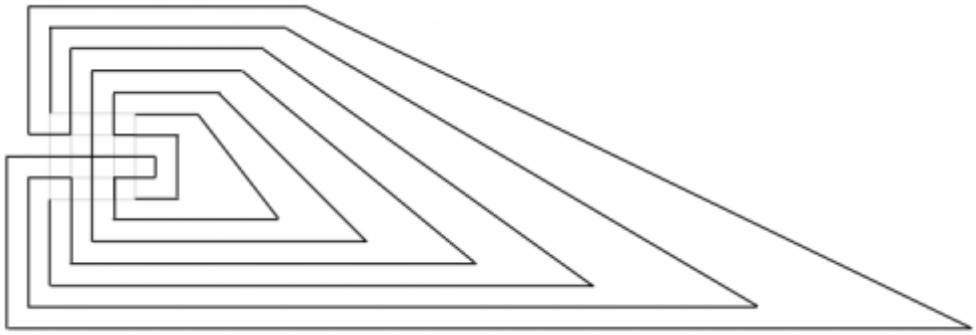


To switch some of the curves (5-5, 6-6, 7-7) so they go below the grid also produces a labyrinth â?? with a twist. Itâ??s shaped like an *f*. I suppose itâ??s an asymmetrical bi-centric re-entrant unicursal labyrinth, but Iâ??ve not yet found such a shape online.

The paths outside of the initial grid serve to extend the journey, and can assume any geometry, as long as the walls donâ??t cross. Hereâ??s the obvious rectilinear version of the classical unicursal maze.



Any maze architect would want to keep the width of the paths uniform as well, unless you want terraces, or gaps for thicker retaining walls or planting.



Architects design mazes, though they are rarely of the classical unicursal maze type. Thereâ??s Daniel Libeskind and Cosentinoâ??s â??Musical Labyrinthâ?• project in Frankfurt, which is marked out as white lines and text on the ground plane of a public square.

Libeskindâ??s Jewish Museum in Berlin features a grid of obelisks described on the museumâ??s website: â??The labyrinthine â??Garden of Exileâ?? tests the visitorâ??s sense of balance and provides a metaphor for the loss of orientation in foreign countries.â?• Itâ??s a 7Ã?7 grid. The base and the rectilinear obelisks are at slight angles to the ground plane.

Perhaps its inventor is entitled to call it a labyrinth. Any grid contains the rudiments of a labyrinth. Seven is the number of circuits in the classical labyrinth, and Libeskindâ??s design aims at disorientation â?? but itâ??s not yet a complete classical unicursal maze.

Reference

- Kiteman. 2007. Draw Your Own Labyrinth. *Autodesk â?? Instructables: Craft*. Available online: https://www.instructables.com/id/Draw-your-own-labyrinth./ (accessed 19 July 2019).

Category

1. Architecture

Tags

1. labyrinth
2. maze

Date Created
July 20, 2019
Author
rcoyne99