**Eulerian Path**

The Prussian town of Konigsberg was situated on both banks of the river Pregel. There were two islands in the river and seven bridges connecting the islands and river banks. This was the problem posed to Euler: can one stroll around the city crossing each bridge exactly once?

If you have a drawing of the bridges, the problem can be restated as follows: Draw a line segment through each of the bridges without lifting the pencil from the paper and without visiting any bridge twice.

Euler’s theorem: A graph can be traversed without lifting the pencil, while tracing each edge exactly once, if and only if there are no more than two odd vertices. Such a path is called an Eulerian path.
Fifteen bridges connect four islands A, B, C, and D to each side of the river, as well as linking the islands themselves as shown in the above figure. Can one take a stroll in which each bridge is crossed once and only once?