The problem starts with two definitions:

1. Hamilton Path

A Hamilton path is a graph path between two vertices of a map that visits each vertex exactly once.



In the example above, starting from A, there are two Hamilton paths:  $A \rightarrow G \rightarrow F \rightarrow E \rightarrow C \rightarrow B \rightarrow D$ .

2. Knight Tour

A knight's tour is a sequence of moves of a knight on a chessboard such that the knight visits every square only once.

Given an algorithm the finds the shorter Hamiltonian path on any graph (Let's call it Algorithm A), construct an algorithm that finds the shortest knight's tour on any chessboard.

## Reference:

commons.wikimedia.org

https://en.wikipedia.org/wiki/Knight%27s\_tour#Theory

Squirrel, Douglas; Cull, P. (1996). "A Warnsdorff-Rule Algorithm for Knight's Tours on Square Boards" (PDF). Retrieved 2011-08-21.

http://mathworld.wolfram.com/HamiltonianPath.html