22C:002 Algorithms: From Euclid to the iPad
Homework 3 Due: 9-22, Th, in-class

The Wikipedia entry for the *Travelling Salesman Problem* contains the following quote by the Mathematician Karl Menger:

> We denote by messenger problem (since in practice this question should be solved by each postman, anyway also by many travelers) the task to find, for nitely many points whose pairwise distances are known, the shortest route connecting the points. Of course, this problem is solvable by finitely many trials. Rules which would push the number of trials below the number of permutations of the given points, are not known. The rule that one first should go from the starting point to the closest point, then to the point closest to this, etc., in general does not yield the shortest route.

It seems this was written in the 1930s.

Can you create a small example that proves the last sentence in Menger's quote. In other words, for your example the greedy algorithm described in Menger's quote produces a solution that is not the best possible solution.
