Property Demonstration on the Simple Nearest Neighbor Greedy Algorithm regarding TSP Problem with Various Examples
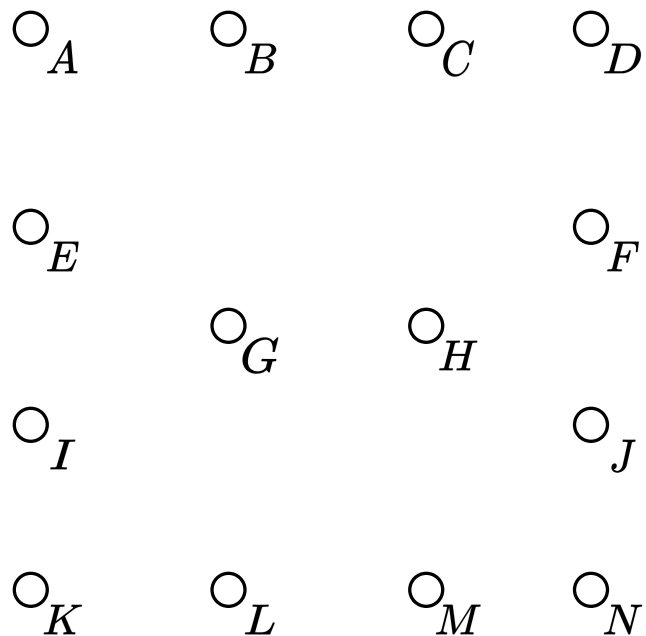
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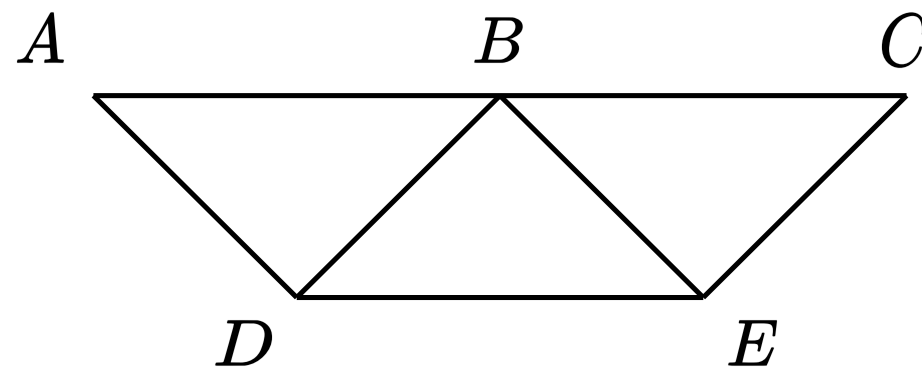
Recent Research Topic: Generative Model

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Task 2-2

Optimal path: $ABCDF{\color{green}HJNMLKGE}A$
SSN greedy obtained path: $ABCDF{\color{orange}JNMLKIEGH}A$

Consider the graph with
$$AD = BD = BE = CE < AB = DE = BC$$

Optimal path: $AD{\color{green}ECB}A$
SSN greedy obtained path: $AD{\color{orange}BEC}A$

Obviously the orange part of the SSN greedy obtained path could not be converted to the green part of the optimal path by a once inversion-based local search.