Abstract

In this paper, we have worked on a problem in the domain of graph theory and geometry. Objective of our problem is to find out the shortest path with forbidden pairs in a graph. Given a graph $G=(V, E)$ and set of pairs $P=\{a_i, b_i | a_i \notin V, b_i \notin V\}$, we have to find out the shortest path between two given vertices $s$ and $t$, s. t. $a_i b_i$ both do not occur on the path for any $i$. We reduce SAT to this problem and thus claim that this problem is NP-hard.

References


Index Terms

Computer Science
Networks

Keywords

Shortest path with forbidden pairs  NP-hard  Computational geometry  Graph theory.