Summary: We introduce a new abstract graph game, SWAP PLANARITY, where the goal is to reach a state without edge intersections and a move consists of swapping the locations of two vertices connected by an edge. We analyze this puzzle game using concepts from graph theory and graph drawing, computational geometry, and complexity. Furthermore, we specify quality criteria for puzzle instances, and describe a method to generate high-quality instances. We also report on experiments that show how well this generation process works.

MSC:
05C57 Games on graphs (graph-theoretic aspects)
91A43 Games involving graphs

Software:
NetLogo

Full Text: DOI arXiv

References:


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