
Computational generation of the maximum number of rounds for a tournament modeled by a simple, connected graph.

Let $G$ be a simple, connected graph. An assemblage of $G$ is a schedule in steps for assembling $G$ in which one never adds more than one edge on a given vertex during a step but if two vertices are adjacent (determine an edge), either that edge must be added at a given step or at least one of the vertices must be on an edge which is added at the given step. We seek to find information concerning $A(G)$, the maximum number of steps possible in an assemblage for a graph $G$. We employ an interplay of methods from mathematics and computer science, seeking an algorithm to generate $A(G)$ from an adjacency matrix for $G$. All simple graphs with fewer than 13 vertices have been explored and data is being analyzed. An upper bound for $A(G)$ has been established and some examples of when the upper bound is achieved have been found.