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

Let \mathcal{G} be a simple, connected graph. An assemblage of \mathcal{G} is a schedule in steps for assembling \mathcal{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 $A(\mathcal{G})$, the maximum number of steps possible in an assemblage for a graph \mathcal{G} . We employ an interplay of methods from mathematics and computer science, seeking an algorithm to generate $A(\mathcal{G})$ from an adjacency matrix for \mathcal{G} . All simple graphs with fewer than 13 vertices have been explored and data is being analyzed. An upper bound for $A(\mathcal{G})$ has been established and some examples of when the upper bound is achieved have been found.