Traveling in a Blinking Node System

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Consider a sports fan who wishes to see a game played in every stadium of their favorite sports league. Take major league baseball for instance, which has exactly 30 teams, each owning its own home stadium. Further, imagine this fan wants to achieve this accomplishment in the month of June, which has exactly 30 days. (We assume this fan is extremely rich and owns a private jet.) So they must go to a game each night of the month, but don't want to go to a stadium on a night when its team is playing away at another stadium. This is known as traveling in a Blinking Node System of order n ($BNS(n)$). What are the necessary and sufficient conditions of a $BNS(n)$ when this is possible? Is there an algorithm that will produce a viable schedule for the fan? If no schedule exists, can we find the shortest number of days to visit each stadium? We will discuss solutions to these questions and other natural extensions.

Keywords: Traveling Salesman, Traveling Purchaser