

Traveling Baseball Players' Problem in Korea

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We study the so-called the traveling tournament problem (TTP), to find an optimal tournament schedule. Differently from the original TTP, in which the total travel distance of all the participants is the objective function to minimize, we instead seek to maximize the fairness of the round robin tournament schedule of the Korean Baseball League. The standard deviation of the travel distances of teams is defined as the energy function, and the Metropolis Monte-Carlo method combined with the simulated annealing technique is applied to find the ground state configuration. The resulting tournament schedule is found to satisfy all the constraint rules set by the Korean Baseball Organization, but with drastically increased fairness in traveling distances.

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