

TUP output (solution) format

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This document describes the two compatible output formats for the TUP (Traveling Umpire Problem) solutions. In the first format, the solution files contain a single line with commas (,) separating the assignment for each game. In the second format, the solution files contain several lines, one for each umpire.

1 Single line game-oriented format

In this format, a single line indicating the umpire assigned for each game is given:

$$A_{11}, A_{12}, A_{13}, \dots, A_{1g}, A_{21}, A_{22}, A_{23}, \dots, A_{2g}, \dots, \dots, A_{r1}, A_{r2}, A_{r3}, \dots, A_{rg}$$

where $A_{rg} \in \{1, 2, \dots, U\}$ denotes the umpire assigned to game $g \in \{1, 2, \dots, U\}$ of round $r \in \{1, 2, \dots, R\}$. U is the number of umpires and R is the number of rounds.

The other lines in the solution file are ignored.

2 Multi-line umpire-oriented format

In this format, each line specifies the venues (home teams) visited by one umpire. The home venues are separated by a single space:

$$V_{11} \ V_{12} \ V_{13} \ \dots \ V_{1r}$$

$$V_{21} \ V_{22} \ V_{23} \ \dots \ V_{2r}$$

...

$$V_{u1} \ V_{u2} \ V_{u3} \ \dots \ V_{ur}$$

where $V_{ur} \in \{1, 2, \dots, N\}$ denotes the home venue visited by umpire $u \in \{1, 2, \dots, U\}$ in round $r \in \{1, 2, \dots, R\}$. N is the number of teams, U is the number of umpires and R is the number of rounds.

The remaining lines in the solution file are ignored.