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A note on König's minimax theorem.

Acta Math. Hungar. 64 (1994), no. 2, 183–190.

The present paper is devoted to clarifying the relations between two classical minimax theorems, namely those of Ky Fan and König. Both theorems deal with real-valued functions on the products $X \times Y$ (X a compact topological space and Y a nonempty set) fulfilling a certain kind of convexity conditions (Ky Fan convexity and König convexity, respectively). Apart from the fact that Ky Fan convexity implies König convexity, the result of König formally is an extension of Ky Fan's result. However, it is shown that the former can be gained from the latter by applying Ky Fan's theorem to a generic lifting of f on $X \times co(Y)$. Here, co(Y) is a certain simplex defined in the space of all real-valued functions on Y having a finite support.

Finally, the author considers versions of the above minimax theorems under weakened assumptions of convexity.

Reviewed by Hubertus Th. Jongen

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