

Lexicographic Choice under Variable Capacity Constraints

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Abstract

A (capacity-constrained) choice problem consists of a set of alternatives and a capacity. A (capacity-constrained) choice rule, at each choice problem, chooses from the alternatives without exceeding the capacity. We characterize choice rules that are lexicographic: there is a list of priority orderings over potential alternatives such that at each choice problem, the set of chosen alternatives is obtainable by choosing the highest ranked alternative according to the first priority, then choosing the highest ranked alternative among the remaining alternatives according to the second priority, and proceeding similarly until the capacity is full or no alternative is left. Lexicographic choice rules have been useful in designing allocation mechanisms for school choice to accommodate diversity. We provide a characterization of deferred acceptance mechanisms that operate based on a lexicographic choice structure, instead of a priority structure.