

Complexity of finding Pareto-efficient allocations of highest welfare *

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We allocate objects to agents as exemplified primarily by school choice. Welfare judgments of the object-allocating agency are encoded as edge weights in the acceptability graph. In this way, the welfare of an allocation is the sum of its weights. We introduce the constrained welfare-maximizing solution, which is given by the allocation of highest welfare among the Pareto-efficient allocations. From a computational point of view, we identify conditions under which this solution is easily determined. For the general, unrestricted case, we formulate an integer program. We find that this is a viable option in practice, solving a real-world instance quickly. Incentives to report preferences truthfully is discussed briefly.

*Based on a joint work with Jens Gudmundsson.