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A Clustering-Sequencing Approach to the Facility Layout Problem

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Abstract : The Facility Layout Problem (FLP) is key to the efficient and cost-effective operation of a system. This paper presents a hybrid heuristic- and mathematical-programming-based approach that divides the problem conceptually into those of clustering and sequencing. First, clusters of vertically aligned facilities are formed, which are later on sequenced horizontally. The developed methodology provides promising results in comparison to its counterparts in the literature by minimizing the inter-distances for facilities which have more interactions amongst each other and aims at placing the facilities with more interactions at the centroid of the shop.

Keywords : clustering-sequencing approach, mathematical modeling, optimization, unequal facility layout problem
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