

عنوان مقاله:

Designing a Cellular Manufacturing System with Incremental Cell Formation

محل انتشار:

سومین کنفرانس ملی مهندسی صنایع (سال: 1383)

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خلاصه مقاله:

In the past several years, many studies have been carried out on cellular manufacturing. Some have used binary data, while others have used sequence-based production data for cell formation. In practice, it has been observed that cellular systems are designed with incremental cell formation by considering most important part-family first and designing cell for this part-family. Subsequently, cells are added for other partfamilies in an incremental fashion. The objective of this paper is to design such a cell for a given part-family. Effort has been made to minimize cycle time for a fixed number of workstations. Approach used in this paper is to identify a combination of the operations, which can be done on same workstation, and partition the problem in two sub-problems with respect to this combination. Process is repeated recursively. This approach is computationally fast and gives solutions, which are as good as or better than the other methods. Four examples from the literature have been solved to demonstrate the advantages of this algorithm

کلمات کلیدی:

Group Technology, Part-family, Incremental Cell Formation, Multistage Programming, Cycle Time, Branch and Bound

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