论文

A HEURISTIC FOR F3/b_i= b/C_{max} AND ITS WORST-CASE ANALYSIS

HOU Sixiang(1),DU Donglei(2)

(1)China Marine Development and Research Cented Box 1303-17, Beijing 100073, China;(2)Institute of Applied Mathematics, Academia Sinica, Beijing 100080, China

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摘要　　This paper describes a heuristic for solving $F3/b_i = b/C_{\max}$ scheduling problem. This algorithm first uses the Johnson's algorithm solving $F2//C_{\max}$, then, presents revised algorithm to solve $F3/b_i = b/C_{\max}$. Lastly, an $O(n \log n)$ time heuristic is presented which generates a schedule with length at most 3/2 times that of an optimal schedule, for even number $n \geq 4$, and $3/2 + 1/(2n)$ times that of an optimal schedule, for odd number $n \geq 4$. These bounds are tight.
关键词　　Two-machine flow shop, three-machine flo
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Abstract This paper describes a heuristic for solving $F3/b_i = b/C_{\max}$ scheduling problem. This algorithm first uses the Johnson's algorithm solving $F2//C_{\max}$, then, presents revised algorithm to solve $F3/b_i = b/C_{\max}$. Lastly, an $O(n \log n)$ time heuristic is presented which generates a schedule with length at most 3/2 times that of an optimal schedule, for even number $n \geq 4$, and $3/2 + 1/(2n)$ times that of an optimal schedule, for odd number $n \geq 4$. These bounds are tight.

Key words   Two-machine flow shop   three-machine flow shop   worst-case analysis   automated manufacturing system

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