Graph Search Methods: Application to Single Machine Job Sequencing Problems

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Thesis Summary

Best-first search (BFS) algorithms run fast on the average, but require substantial memory to store the generated nodes and can hardly be used for solving large problems. On the other hand, depth-first search (DFS) algorithms use tree search space. Using a tree search space instead of graph search space may generate duplicate copies of nodes and hence DFS algorithms may search a node over and over again along different paths to the node. This dissertation attempts to bridge the gap between the two extremes.

We propose a new graph search algorithm ETCBB, which can utilize available memory