## Single Machine Scheduling Problem to Minimize the Number of Tardy Jobs

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**Abstract :** Minimizing the number of tardy jobs is an important factor to consider while making scheduling decisions. This is because on-time shipments are vital for lowering cost and increasing customers' satisfaction. This paper addresses the single machine scheduling problem with the objective of minimizing the number of tardy jobs. The only known information is the lower and upper bounds for processing times, and deterministic job due dates. A dominance relation is established, and an algorithm is proposed. Several heuristics are generated from the proposed algorithm. Computational analysis indicates that the performance of one of the heuristics is very close to the optimal solution, i.e., on average, less than 1.5 % from the optimal solution.

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