# An effective genetic algorithm for lot-sizing problem with quantity discount

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## Abstract

This paper considers a lot-sizing problem with quantity discount. The objectives are to minimize total costs, where the costs include ordering cost, holding cost and purchase cost, under the requirement that no inventory shortage is allowed in the system. In this paper, we develop an efficient genetic algorithm (GA) to solve the lot-sizing problem with quantity discounts in determining an appropriate inventory level for each planning period. The results demonstrate that the proposed GA model is an effective and accurate tool for determining the replenishment for a manufacturer for multi-periods.

Keyword：lot-sizing; genetic algorithm