

Research on the Greedy algorithm applied to solving the ATM cash withdrawal problem

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Abstract: This topic focuses on researching and applying the greedy algorithm to solve the optimization problem of the payment process at Automated Teller Machines (ATMs). The reason for choosing this topic stems from the practical necessity in modern financial management to minimize excess cash during transactions. The objective of the research is to build a system based on the greedy algorithm to optimize the quantity and type of banknotes/coins dispensed when customers withdraw money. The implementation method combines theory with experimentation to ensure efficiency and feasibility in the ATM environment. The expected result is a system applying the greedy algorithm that can improve user experience and reduce operational costs for banks.

Keywords: Greedy algorithm, Cash payment problem, Automated Teller Machine (ATM), Transaction process optimization