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# On one problem of optimal stopping of Markov chains

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*For a Markov chain with a discrete or continuous set of states, the problem of finding two Markov stoppings for which difference between the expectation values of the random process in these times has a maximum value is considered. Interpretation of the problem is as follows: the time of purchase and sale of a financial asset at a time when the price of the asset changes according to a Markov chain with given transition probability matrix. The numerical results for a number of models of Markov chains are given.*

**Keywords:** *Markov chain, stopping time, transition probabilities, backward induction, random walk, model Ehrenfests.*

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