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Financing describes a method of raising funds or capital. Many finance an asset and pay for it in installments, as opposed to paying a sum up-front. The cost of financing is the interest expense. Banks charge an interest rate on the loan. This motivates people to scout for and obtain the lowest interest rate possible. Even after a loan is taken, people look towards "refinancing" in order to achieve an even lower interest rate.

This research project will model the effects of refinancing home mortgages and car loans at lower interest rates. Mathematically, we will show the point in time that is most beneficial to the borrower for refinancing depending on the terms left on the loan and the percent decrease in the interest rate. We will take into account the refinancing fees in the model. Also, we will look at how the refinanced loan will be contracted. For example, when a loan is refinanced during the loan period, will the new loan be for the remainder of the original contract or the start of another contract? This paper will help to arrive at the answers to these questions. (Received September 25, 2006)