ABSTRACT

Option is a contract that gives the right (without obligation) to buy or sell an underlying asset at a specified price within a specified period. Based on the exercise time, option is divided into American option and European option. American option gives the holder opportunity to exercise their right at any time until the maturity date, whereas European option can only be exercised at the maturity date.

Until now, American option pricing is performed by using a numerical approach, one of them is Monte Carlo algorithm. Monte Carlo algorithm is a numerical method that utilizes "strong law of large number" to find the solution of a mathematical problem that is difficult to resolve.

Based on simulation, the result obtained that the greater number of simulation the smaller the standard error. This indicates that the approach taken by the Monte Carlo algorithm for estimating American option price is good enough.

Keywords : American option, Monte Carlo algorithm