

Determine the price an American put option using the following methods:

- (1) Approximation based on interpolation.
- (2) Quadratic approximation.

The following data (same as Lab 4) must be used for pricing the American option:

$$S(0) = 50; K = 50; T = 1; r = 8\%; \sigma = 30\%.$$

Plot the values of the option against time and stock price for both the methods. How do these values compare with the values obtained using the finite difference method (*Cryer's algorithm*).

Submission Deadline: 26th August 2025, 11:59 PM