

# Asian put option pricing using Matlab Financial Toolbox

(for comparison with our approach)

```
% Define the Asian option
Settle = '5-July-2020';
ExerciseDates = '30-August-2020';
Strike = 105;
OptSpec = 'put';

% Create RateSpec from the interest rate term structure
StartDates = '5-July-2020';
EndDates = '30-August-2020';
Rates = 0.02;
Compounding = -1;
Basis = 0;

RateSpec = intenvset('ValuationDate', StartDates, 'StartDates', StartDates, ...
    'EndDates', EndDates, 'Rates', Rates, 'Compounding', ...
    Compounding, 'Basis', Basis);

% Define StockSpec with the underlying asset information
Sigma = 0.25;
AssetPrice = 100;

StockSpec = stockspec(Sigma, AssetPrice);

% Create the time specification of the tree
NPeriods = 8;
TreeValuationDate = '5-July-2020';
TreeMaturity = '30-August-2020';
TimeSpec = crrtimespec(TreeValuationDate, TreeMaturity, NPeriods);

% Build the tree
CRRTree = crrtree(StockSpec, RateSpec, TimeSpec);

% Price the European Asian option using the CRR lattice model.
% The function 'asianbycrr' computes prices of arithmetic and geometric
% Asian options.
AvgType = {'arithmetic'};
AmericanOpt = 0;
PriceCRR = asianbycrr(CRRTree, OptSpec, Strike, Settle, ExerciseDates,...
    AmericanOpt, AvgType)
```

```
PriceCRR = 5.4565
```