FE545: Final Project

May 6, 2022

Nhat Pham

I + II)

T = 1

S$_0$ = 50

K = 50

r = 0.05

δ = 0.08

σ = 0.3

b = 3

n = 100

Steps = 3

Call			Put		
BNCall	**RTCallH**	**RTCallL**	**BNPut**	**RTPutH**	**RTPutL**
5.39834	5.88387	2.87211	6.58504	7.40422	5.26088

The price of Binomial Tree American (call and put) is higher than Random Tree American Low Estimator and lower than Random Tree American High Estimator.

In this case, High Estimator gives the closer (maybe more accurate) result to Binomial Tree than the Low Estimator.

III)

I added PayOff inherited class for each BNCall/Put, RTCall/PutH and RTCall/PutL in use them to register with the factory.