

Principles of Financial Computing HW#4

Write a program to price an x-year American-style put option on a zero coupon bond that matures at year y with a par value of 1 dollar. Use **binomial trees** for the **CIR model**.

Inputs:

- (1) x (year)
- (2) y (year)
- (3) r (% , initial short rate)
- (4) b (%)
- (5) m (%)
- (6) s (%)
- (7) n (number of partition)
- (8) X (Strike price, % of Par)

Output: Option price(% of par)

For example, assume

$x = 1, y = 10, r = 4(\%), b = 20(\%), m = 4(\%), s = 10(\%), n = 30, X = 90(\%)$

then the

X is 21.7750(%)

$x = 1, y = 30, r = 10(\%), b = 10(\%), m = 3(\%), s = 20(\%), n = 10, X = 90(\%)$

X is 48.8973(%)

Please send your **source code**, **executable code**, and a **brief explanation file** if necessary (e.g., how to run it?) **before 08:00 AM of June 21, 2019.**

Compress your files into a single file and name it

StudentID_HW_4. Ex: R91922054_HW_3.