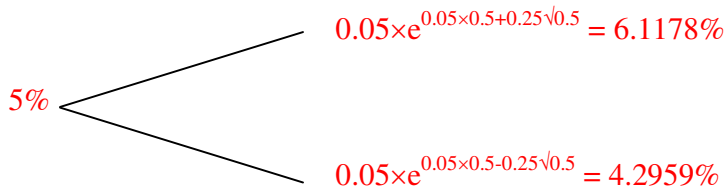


Solution

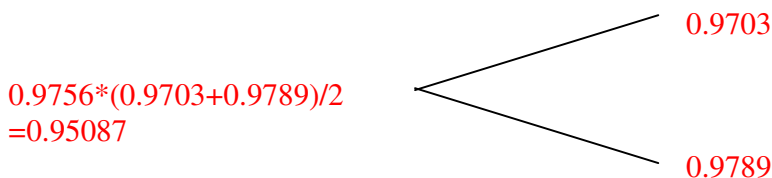
a) Construct an interest rate tree according to the method presented in class with step size $h = 0.5$, volatility $\sigma = 0.25$, drift $m = 0.05$, and initial 0.5-year rate $r = 5\%$. The tree should give short rates out to time 0.5.



b) What is the time 0 price of \$1 par of a zero maturing at time 0.5?

$1/1.025 = 0.9756$

c) What is the time 0 price of \$1 par of a zero maturing at time 1? (recall risk neutral probabilities are 0.5)



	0.05	0.25			
5	1.025315	1.193365	1.223575	6.117874	Rup
5	1.025315	0.837967	0.85918	4.295901	Rdn

d12/up	0.970319
d12/dn	0.978972

d1/2	0.97561
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d1	0.950874
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