Homework 4

Chapter 5

3. Price a European call option on the clean price of a bond using a trinomial tree under the Hull-White model. The strike price and maturity of the option is \$100 and 5 years, respectively. The underlying bond has a coupon rate of 5%. At the maturity of the option, the bond has a remaining life of 5 years. The parameters for the model are $\kappa = 0.1$, $\sigma = 0.015$, and the yield curve is flat at 5%. Take $\Delta t = 1/2$ year and $\Delta t = 1/4$ year, consecutively.
4. Price the American call option corresponding to the above European call option using the same tree developed in Problem 3.