Course work Part B for IF2102 Financial Modeling with Visual Basic Year 2012-13 Term 2

Each question below is worth 10% weight, so total of 40% module weight

For each of the following questions please write separate subroutine named after the problems e.g. sub problemone() sub problemtwo() etc. Within each subroutine you can call any functions you have written that may be named differently.

1. Modify the tree you constructed in coursework part A to price American (as against European) put (as against call) options in the absence of dividends.
2. Based on your work from coursework part A examine the convergence of European call option prices in the CRR method of generating the binomial tree. Ignore dividends.
3. Repeat the above exercise for the Jarrow Rudd specification, and highlight the differences in convergence between this method and the CRR method above.
4. Given by a user are a one period credit rating matrix, and a vector of initial ratings for each entity in a portfolio, and a scalar n = the number of time periods. Compute and output the final rating for each entity in the portfolio.

For each question above 40% marks allotted to that question will be assigned to clarity of design and code. This includes choice of variable names, flow of control, comments etc. Your code should work but it should also be very easily readable. There is no explicit credit for faster execution time; you are encouraged to write a good program that may run slower but is almost self-explanatory rather than a cryptic piece of code that is highly efficient but hard to read.