CQF Exercises 4.5 Convertible Bonds

1. If we were using convertible bonds for speculation, we may wish to use an estimated drift rate for the asset, instead of the risk-free rate. Using no more than one paragraph, explain how this would change the pricing equation?

   To value the convertible bond for speculation, we must find the present value of the expected payoff. This leads to the same PDE as for the risk-neutral valuation, with the exception that the risk-free rate r is replaced by the real world drift μ.

2. Write a computer code based on the explicit finite difference method to price convertible bonds. Consider conversion and effects of coupons. Modify your code to callables and putables.

   For sample VBA code see extra lecture (under alumni recordings) give by Wilmott.