Summary: This exercise leads you through an application of Black-Scholes.

Learning Objective: to learn how to value a European option using the Black-Scholes formula.

Setting: The course web site provides a program to execute the Black-Scholes formula. Go to "course materials", then "spreadsheets" and click on "options pricing models".

Tasks:

1. Find stock market and option quotes for the shares of a major company, for which there is a market for options.
   The default company is Ford Motor Company (market symbol: F), but you can do the exercise for any company that interests you and that has traded options.

   You can find the stock market quotes in a variety of ways. For this exercise, using yahoo is recommended: http://finance.yahoo.com/. If you use yahoo, you can find the quotes on American options by clicking in the appropriate place in the left-hand column. Note values and provide references.

2. Calculate the value of a European Option expiring in March of next year
   Use strike prices corresponding to those used in the traded options (which you saw in the yahoo web site for example). Assume that the risk-free rate equals the rate on US Government 3-month bills that you identified in the previous assignment.

   You also need the volatility of the stock. For the sake of simplicity, assume that the 52-week range in the stock price (conveniently provided on the "basic chart" part of the site) represents 4 sigma of the distribution. This is not exact, but will do for the sake of this exercise.

3. Compare results the values for American options ending in March
   The value of a European and an American option, being different, should have different values. Comment on how your B-S results compare to what you saw as quotes.