Assignment 6: Newton's Method

Due: Nov 17th, 2015 at 9:59 am

Question 1: Calculate the Implied Volatility

- Use package quantmod download the Option Chain of SPY, the maturity date is Dec-04-2015.

- Download the mark quote data, use it as your underlying price.

- The Black-Scholes formula is provided in the sample source file. Use this function and the data you have, calculate the implied volatility smile.

- Pick several different initial value if your algorithm doesn't converge. It is acceptable that your truncate your option chain according to moneyness.

- Plot the volatility smile for both call and put option.

Please submit your code as well as two plots for calls and puts.