ISGB 79AA – Advanced Python for Financial Programming
Assignment 7 - Equity Options

This assignment has 1 part. Submit your answers as a Jupyter Notebook, named like:
   LastnameFirstnameAsn7.ipynb, for example SmithJohnAsn7.ipynb

 In addition to Python code, place your answers to specific questions as comments in your
Notebook. Also include a first line of your notebook(s) a comment like:
`# Firstname Lastname Assignment 7`

Part A – Option Calculations

For a stock of interest, use Yahoo Finance to locate the options traded on a stock of interest. (If
your stock does not have any options, select another stock.)

A.1) From the list of call options available, select one of the options. (Make sure your option
has a non-zero implied volatility.) In your Notebook in a comment or Markdown, document the
option chosen as:
   <ticker> / <expiry> / <strike> Call
for example:
   AAPL / March 20, 2020 / 265 Call

Note the Contract Name in Yahoo Finance is indicated as:
<ticker>yymmddC<strike price>

A.2) With QuantLib, using either Black-Scholes or Simulation[1], model your option, and calculate
the option's:
        price
        delta
        vega

For volatility assumption, use the implied volatility (as shown in Yahoo Finance, for your
option). For the risk free rate, use the latest 1-month Treasury rate, available at:
https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yield

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[1] Although US stock options typically have American exercise, for this assignment assume European option
exercise.