Replication Package Instructions for "The Jump Leverage Risk Premium"

The code in this replication package uses simulated option data over one day at high frequency to estimate the key measures in the paper (equation numbers below refer to those in the paper):

1. Risk-neutral Variance, eq. 41
2. VIX, eq. 42
3. Spot Risk-neutral Variance, eq. 44
4. Spot VIX, eq. 44
5. Risk-neutral Leverage, eq. 46
6. Daily Realized Variance, eq. 47
7. Daily Realized Leverage, eq. 48

Data Source: option_data.mat

Data Description:

- This is a struct in matlab that contains the data needed for the computations.
- The elements of the file are:
  - spot is the spot price.
  - T1 is the first time to maturity of available options in year unit.
  - T2 is the second time to maturity of available options in year unit.
  - T3 is the third time to maturity of available options in year unit.
  - options1 is matrix containing strike (first column) and option price (second column) for out-of-the-money options with time to maturity T1.
  - options2 is matrix containing strike (first column) and option price (second column) for out-of-the-money options with time to maturity T2.
  - options3 is matrix containing strike (first column) and option price (second column) for out-of-the-money options with time to maturity T3.
  - Each element of the struct corresponds to high-frequency observation of the spot prices and the options over one day.
- The data is simulated from the option model used in the Monte Carlo with a starting value of the spot price of 4,500 and starting value of spot variance of 0.0204.

Code: sample_code.m

Software Requirements: Matlab R2022