You are a market risk quant in the online brokerage. The risk managers asked you to estimate 10-day value at risk (VaR) of a new client. The following is the position that is being onboarded to your firm's platform:

	US$ CASH	AAPL	SPY
holdings	$10,000	100	-100
price	1	186.79	281.12

You are suggested to apply GARCH volatility modeling in order to forecast volatility of the equity holdings. The risk managers do not want to use the simplest GARCH method we used in the assignment. They expect that you would apply a different method such as GARCH-GJR. The 10-day horizon means that you must forecast volatility 10 days forward, then use it to estimate the VaR either parametrically or using other approaches such as Monte Carlo.

You can obtain daily price series of AAPL and SPY from Finance Yahoo web site then obtain their returns. It suggested that GARCH lookback period is the most recent one year, i.e. GARCH must be estimated on the most recent 1 year historical data.