Midway Report
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Backtesting Quantitative Trading Strategy on Digital Currencies
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Data
We have collected 4 sets of price/time BTC/USD data, daily, 10-min, 5-min and 1-min OHLC from Bloomberg Terminal.

Code
We created a Strategy class which will contain a virtual account with principal and position, and the price data. It also has some member functions such as buy/sell/stop, to manipulate the virtual account, technical indicator functions to compute the technical indicator from the price data, and signal function to generate signal from the indicators.
More details can be found in out submitted cpp file.

Midway Result
We have only tried a simple Relative Strength Index Strategy on daily data. We assumed RSI is useful for indicating the overbuy/oversell situation of the market and the plan is buy when market is oversold (RSI > sellSign e.g., 70) and vice versa. The result turned out bad and we lost all the virtual capital throughout backtesting. However, if we invert our signal say, we buy when market is shown overbought, we can actually make profit. This can be explained by the fact that BTC experienced several one-sided and relatively long-lasting price trends and when market is overbought/oversold, it was likely to continue instead of reverting, and therefore, the mean-reverting strategy using RSI did not perform well under this dataset.

Future Plan
1. Split the cpp file into header files and main.cpp.
2. Create a grid search to optimize the parameter we used in calculating the technical indicators according to the Sharpe ratio and total profit generated.
3. Add features such as stop loss to improve the strategy performance.
4. Incorporate the model with other indicators such as MACD to create a multi-indicator strategy.