

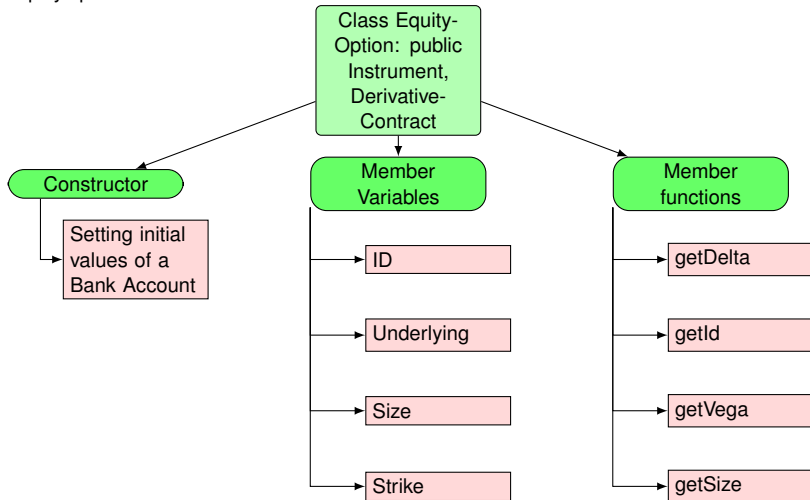
C++ fundamentals with use cases from finance

Tutorial 4: Equity Derivative Portfolio Design and Delta-Hedging

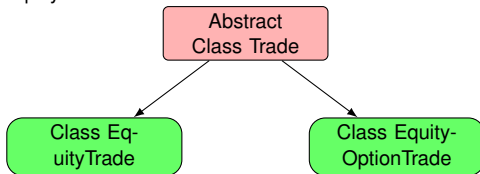
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Part 1/3

- Construct abstract class: Instrument, Derivative Contract
- Abstract Classes serve as templates for the derived classes
- Construct Equity class used to represent simple cash Equity
- Construct EquityOption class used to represent Equity Options
- EquityOption Class should inherit from both Instrument and Derivative Contract classes



- Create Abstract Class Trade
- Create Derived Class Equity Option Trade
- Create Derived Class Equity Trade



- Create Position class that contains a log of trades
- For the position one should be able to derive deltas of the position. Note that portfolio may have several underlyings, thus delta can be computed for each of the underlying
- Implement free function that returns the map of equity trades to make the portfolio to be delta-neutral
- Use "for" loop to iterate over the map that contain deltas from position class