

IPO:

- Main strategy: only bid on players in the preferred ranks
- During every iteration of the bot:
 - Choose 1 to 10 stocks in the preferred ranks
 - For each stock x:
 - If we are conservative: offset x's projections negatively
 - If we are not conservative: offset x's projections positively
 - Rank the modified projection of x with the real projections of all other event stocks -> map this new ranking of x with its corresponding payout y
 - Add some noise to y and add between 0.05 to 0.10 to it
 - Bid y if the last price of the event stock is less than y

LIVE:

- Bid
 - Main strategy: Look for opportunities where stocks are undervalued
 - During every iteration of the bot:
 - Calculate a constant called profit for every event stock with ask price
 - For each event stock, profit is $(ask_price - valuation / valuation)$, and adjusted based on other factors
 - The event's amount completed
 - The amount of chips we can earn (ask-valuation)
 - Make an ordered list of all event stock that have profits above our buyRisk parameter
 - Choose up to 15 of these event stocks to consider buying
 - Consideration for buying an event stock x:
 - If we are conservative: offset x's projections negatively
 - If we not conservative: offset x's projections positively
 - Rank the modified projection of x with real projections of all other event stocks -> map this new ranking of x with its corresponding payout y
 - Add some noise to y and add 0.10 to it
 - Bid y if the ask_price of the event stock is less than y
- Offer
 - Main strategy: Look for opportunities where stocks are overvalued
 - During every iteration:
 - Calculate profit constant for every event stock with bid price
 - Profit = $(bid_price - valuation / valuation)$
 - Profit is then multiplied with a weight offset and a timing offset
 - If the Profit > Risk then the stock is deemed profitable
 - Up to 5 random profitable stocks are chosen
 - Logic for selling one of the 5:
 - A small gap is added to the player's projection to offset positively if conservative and negative if not conservative

- Rank the modified projection of the targeted stock with the real projections of all others and find the expected payout
- Add some noise to the payout
- Offer if the payout > bid_price - 2

Things to consider for making stronger bots

- Add a way to import unique methods for projections and projections live
- Change sellRisk and buyRisk throughout the game
 - Ex: start with high sellRisk before a game to keep most of your holdings and lower it towards the end of the game once the valuation is set.
- More aggressive towards end of IPO