# Viva

1. Introduction:
   1. What?
      1. Cryptocurrencies.
         1. Good.
         2. Bad.
         3. Irrelevancy.
   2. Why?
      1. Human imperfection:
         1. Emotions and biases.
         2. Fatigue and need to eat.
         3. Error.
   3. How?
      1. Market value constantly changing.
      2. Automate trading.
         1. Buy when cheap.
         2. Sell when more expensive.
   4. Gathering data
2. With database:
   1. Oracle database.
   2. Entity Framework Restful API & modifications.
   3. Data collection:
      1. API get requests:
         1. Limitations.
      2. ScheduledExecutorService.
         1. Current.
         2. Historic.
            1. Gaps.
            2. Priority to current collection.
   4. Collection complete:
      1. Merging.
      2. Growth calculation.
      3. Price prediction.
         1. Algorithms.
         2. No outstanding algorithm.
      4. Benchmarking.
         1. Error.
         2. Profit from $100.
      5. User trading.
3. Without database:
   1. Same, longer start up.
   2. Application robustness.
4. JUnit
5. JavaDoc

# Preparation

1. Purge database [if necessary].
2. Ensure database holds minimum data quantity.
3. Pull and test latest version on laptop

# References

### Cryptocurrency/Blockchain Reading

Buterin, V. (2013). A Next-Generation Smart Contract and Decentralized Application Platform. [online] GitHub. Available at: https://github.com/ethereum/wiki/wiki/White-Paper [Accessed 17 May 2018].

Lee, C. (2011). Litecoin - Open source P2P digital currency. [online] Litecoin.org. Available at: https://litecoin.org/#about [Accessed 17 May 2018].

**Nakamoto, S. (2008). “Bitcoin: A peer-to-peer electronic cash system”. [online] Bitcoin.org. Available at: https://bitcoin.org/bitcoin.pdf [Accessed 19 Apr. 2018].**

Swan, M. (2015). *Blockchain*. 1st ed. Sebastopol, CA: O'Reilly.

### GOFAI Strategy

Koolen, W. and Vovk, V. (2014). Buy low, sell high. *Theoretical Computer Science*, 558, pp.144-158.

**Lui, W., Strong, N. and Xu, X. (1999). The Profitability of Momentum Investing. Journal of Business Finance & Accounting, 26(9-10), pp.1043-1091.**

### Neural Network

Deeplearning4j. (2018). *Deeplearning4j: Open-source, Distributed Deep Learning for the JVM*. [online] Available at: <https://deeplearning4j.org/> [Accessed 10 May 2018].

Guresen, E., Kayakutlu, G., and Daim, T. (2011). Using artificial neural network models in stock market index prediction. *Expert Systems with Applications*, 38(8), pp.10389-10397.

**Persio, L. D. and Honchar, O. (2016). Artificial Neural Networks architectures for stock price prediction: comparisons and applications.**