B4 – Computer Numerical Analysis – Trade

B-CNA-410

Trade Appendices

How to write a bot

MAIN OBJECTIVE

- Write a trading bot
- Place some orders on crypto-currencies
- Get knowledge-rich, or die trying

GIVEN DATA

- 3 currencies available (USDT, BTC, ETH)
- 3 trading pairs between these currencies (USDT_BTC, UDST_ETH, BTC_ETH)
- bot receive datas 30-minutes candles in csv notation

CSV EXAMPLE

```
pair,date,high,low,open,close,volume
USDT_ETH,1516147200,1090.1676815,1022.16791604,1023.1,1029.99999994,1389783.7868468
```

> Taxonomy:
> * pair : The chart to which this candle belongs.
> * date : Unix timestamp, which represents a certain date and time.
> * high : The highest price traded in this candle.
> * low : The lowest price traded in this candle.
> * open : The opening price of this candle.
> * close : The closing price of this candle.
> * volume : The total volume that has been traded in this candle.

TECHNICALITIES

- Transaction fee

  - the bot pays a 0.2% transaction fee for each order it places

- Timebank :

  - allow some additional thinking time when needed
  - start the game with 10 secs
  - each time an action is requested, the timebank is increased (100-500ms)
  - the time needed by the bot to request is deducted from the timebank
  - if the bot is too slow, the timebank will be exhausted

ORDERS

- no_moves OR pass

  - you bot don't take any position

- buy CurrencyPaidWith_CurrencyReceived amount

  - amount is an integer which specifies how much to buy of the CurrencyReceived (2nd symbol)
  - buy USDT_ETH 1 means the bot wants to buy 1 ETH in USDT
  - the cost of the operation would be 1 * [current USDT_ETH closing price]
  - when buying 1 ETH, the bot will actually receive 0.998 ETH

- sell CurrencyReceived_CurrencySold amount

  - amount is an integer which specifies how much to sell of the CurrencySold (2nd symbol)
  - sell USDT_ETH 1 means the bot wants to sell 1 ETH in USDT
  - the bot will received 1 * [current BTC_ETH closing price] - [fee]
  - when selling some currency for 1 USDT, the bot will actually receive 0.998 USDT

> You can place multiples orders at the same time: "buy USDT_ETH 42;sell BTC_ETH 666;sell USDT_BTC 1337"

> Order's order matters

STARTER BOT

- Java starterbot