finance Documentation

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G. Barone, J. Bilbao de Mendizabal, A. Katre

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class market.**market**(*cap*)

Base for decribing stock evolution

m_cap = 0

m_time = 0

CHAPTER

FOUR

NEWFINANCE MODULE

A collection of modules for collecting, analyzing and plotting financial data. User contributions welcome!

newfinance.**candlestick**(*ax*, *quotes*, *width=0.2*, *colorup='k'*, *colordown='r'*, *alpha=1.0*)

quotes is a sequence of (time, open, close, high, low, ...) sequences. As long as the first 5 elements are these values, the record can be as long as you want (eg it may store volume).

time must be in float days format - see date2num

Plot the time, open, close, high, low as a vertical line ranging from low to high. Use a rectangular bar to represent the open-close span. If close >= open, use colorup to color the bar, otherwise use colordown

ax : an Axes instance to plot to width : fraction of a day for the rectangle width colorup : the color of the rectangle where close >= open colordown : the color of the rectangle where close < open alpha : the rectangle alpha level

return value is lines, patches where lines is a list of lines added and patches is a list of the rectangle patches added

newfinance.**candlestick2**(*ax*, *opens*, *closes*, *highs*, *lows*, *width=4*, *colorup='k'*, *colordown='r'*, *alpha=0.75*)

Represent the open, close as a bar line and high low range as a vertical line.

ax : an Axes instance to plot to width : the bar width in points colorup : the color of the lines where close >= open colordown : the color of the lines where close < open alpha : bar transparency

return value is lineCollection, barCollection

newfinance.**fetch_historical_yahoo**(*ticker*, *date1*, *date2*, *cachename=None*, *dividends=False*)

Fetch historical data for ticker between date1 and date2. date1 and date2 are date or datetime instances, or (year, month, day) sequences.

Ex: fh = fetch_historical_yahoo('^GSPC', (2000, 1, 1), (2001, 12, 31))

cachename is the name of the local file cache. If None, will default to the md5 hash or the url (which incorporates the ticker and date range)

set dividends=True to return dividends instead of price data. With this option set, parse functions will not work

a file handle is returned

newfinance.**index_bar**(*ax*, *vals*, *facecolor='b'*, *edgecolor='l'*, *width=4*, *alpha=1.0*)

Add a bar collection graph with height vals (-1 is missing).

ax : an Axes instance to plot to width : the bar width in points alpha : bar transparency

newfinance.**parse_yahoo_historical**(*fh*, *adjusted=True*, *asobject=False*)

Parse the historical data in file handle fh from yahoo finance.

adjusted If True (default) replace open, close, high, and low prices with their adjusted values. The adjustment is by a scale factor, S = adjusted_close/close. Adjusted prices are actual prices multiplied by S.

Volume is not adjusted as it is already backward split adjusted by Yahoo. If you want to compute dollars traded, multiply volume by the adjusted close, regardless of whether you choose adjusted = TruelFalse.

asobject If False (default for compatibility with earlier versions) return a list of tuples containing

d, open, close, high, low, volume

If None (preferred alternative to False), return a 2-D ndarray corresponding to the list of tuples.

Otherwise return a numpy recarray with

date, year, month, day, d, open, close, high, low, volume, adjusted_close

where d is a floating poing representation of date, as returned by date2num, and date is a python standard library datetime.date instance.

The name of this kwarg is a historical artifact. Formerly, True returned a cbook Bunch holding 1-D ndarrays. The behavior of a numpy recarray is very similar to the Bunch.

newfinance.**plot_day_summary**(*ax*, *quotes*, *ticksize=3*, *colorup='k'*, *colordown='r'*)

quotes is a sequence of (time, open, close, high, low, ...) sequences

Represent the time, open, close, high, low as a vertical line ranging from low to high. The left tick is the open and the right tick is the close.

time must be in float date format - see date2num

ax : an Axes instance to plot to ticksize : open/close tick marker in points colorup : the color of the lines where close >= open colordown : the color of the lines where close < open return value is a list of lines added

newfinance.**plot_day_summary2**(*ax*, *opens*, *closes*, *highs*, *lows*, *ticksize=4*, *colorup='k'*, *colordown='r'*)

Represent the time, open, close, high, low as a vertical line ranging from low to high. The left tick is the open and the right tick is the close.

ax : an Axes instance to plot to ticksize : size of open and close ticks in points colorup : the color of the lines where close >= open colordown : the color of the lines where close < open

return value is a list of lines added

newfinance.**quotes_historical_yahoo**(*ticker*, *date1*, *date2*, *asobject=False*, *adjusted=True*, *cachename=None*)

Get historical data for ticker between date1 and date2. date1 and date2 are datetime instances or (year, month, day) sequences.

See `parse_yahoo_historical()` for explanation of output formats and the *asobject* and *adjusted* kwargs.

Ex: sp = f.quotes_historical_yahoo('^GSPC', d1, d2,

asobject=True, adjusted=True)

returns = (sp.open[1:] - sp.open[:-1])/sp.open[1:] [n,bins,patches] = hist(returns, 100) mu = mean(returns) sigma = std(returns) x = normpdf(bins, mu, sigma) plot(bins, x, color='red', lw=2)

cachename is the name of the local file cache. If None, will default to the md5 hash or the url (which incorporates the ticker and date range)

newfinance.**volume_overlay**(*ax*, *opens*, *closes*, *volumes*, *colorup='k'*, *colordown='r'*, *width=4*, *alpha=1.0*)

Add a volume overlay to the current axes. The opens and closes are used to determine the color of the bar. -1 is missing. If a value is missing on one it must be missing on all

ax : an Axes instance to plot to width : the bar width in points colorup : the color of the lines where close >= open colordown : the color of the lines where close < open alpha : bar transparency

newfinance.**volume_overlay2**(*ax*, *closes*, *volumes*, *colorup='k'*, *colordown='r'*, *width=4*, *alpha=1.0*)

Add a volume overlay to the current axes. The closes are used to determine the color of the bar. -1 is missing. If a value is missing on one it must be missing on all

ax : an Axes instance to plot to width : the bar width in points colorup : the color of the lines where close >= open colordown : the color of the lines where close < open alpha : bar transparency

nb: first point is not displayed - it is used only for choosing the right color

newfinance.**volume_overlay3**(*ax*, *quotes*, *colorup='k'*, *colordown='r'*, *width=4*, *alpha=1.0*)

Add a volume overlay to the current axes. quotes is a list of (d, open, close, high, low, volume) and close-open is used to determine the color of the bar

kwarg width : the bar width in points colorup : the color of the lines where close1 >= close0 colordown : the color of the lines where close1 < close0 alpha : bar transparency

CHAPTER

FIVE

STOCK MODULE

class stock.**stock**(*cap*)

class for decribing stock evolution

addHistoricaldata(*currentVal=0*, *time=0*)

bet(*betVal*)

evolve(*change=0*, *use=False*, *timeLow=0*, *timeUp=1*)

getAll()

getCap()

getTime()

getTimes()

m_cap = 0

m_iters = 0

m_time = 0

m_time_his = []

m_val = []

next()

CHAPTER

SIX

TEST MODULE

CHAPTER

SEVEN

TESTVIRTUALMARKET MODULE

CHAPTER

EIGHT

VIRTUALMARKET MODULE

class virtualMarket.**virtualMarket**(*nstocks*, *startingCapStock*)

Container Class of stocks

AddStock(*cap*)

Apend a stock with capital :param cap: intial capital

AddStockC(*st*)

Apend a stock to the container :param st: stock to be added

Evolve()

Calls the evolve method for each stock

getStock(*s*)

stock at position :param s: stock index :return: stock of index s

listOllClosingValues()

prints the list of final values of all stocks :returns: a print out

m_allStocks = []

m_nstocks = 0

m_overAllCapital = 0

m_overAllVariation = 0

m_startingCapStock = 0.0

m_time = 100

randomBet(*low=0*, *up=100*)

Place a random order with in range low up on the stock :param low: lower limit :param up: upper limit

setTime(*time=100*)

Set time :param time: time to be set

CHAPTER

NINE

INDICES AND TABLES

- *genindex*
- *modindex*
- *search*

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