MIM Correlation Tool

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MIM Correlation Tool

Overview

How it Works

The MIM Correlation Tool is a Java application that runs from a command prompt on the MIM server. The application applies an XMIM correlation query against a list of equities that are contained in a file named “indlist”. The file is provided separately to the application and consists of a list of equities or securities in the MIM database (as many as 7000 North American Securities can be listed) and the industry categories into which they fall. The Correlation Tool compares each equity price in the “indlist” file to its category peers and outputs the results, ranked by correlation co-efficient (value between -1 and 1) and by category. The output is generated as a .csv file that can be viewed easily in Microsoft Excel.

The MIM Correlation Tool may take up to 9 hours to process an “indlist” file of 7000 equities, so the user should run it overnight or at the weekend to avoid any impact on the daytime server operation.

Query Filter

The following shows the correlation query that is applied to all securities in the security category list file: “indlist”.

The correlation query cannot be modified as the code is embedded in the MIM Correlation software.

Listed below are the parameters that run over each set of securities in the indlist file.

```
LET

    stocks1 = FILE "/home/lim/correlation/work/FilenameA.sector"
    stocks2 = FILE "/home/lim/correlation/work/FilenameB.sector"

AS_LONG_AS

    number_of_occurrences is more than 0

SHOW
1: corr_value

WHEN
```

```
      Date is stocks1 last_data_day

  AND
      Date is stocks2 last_data_day
# check that both stocks have liquid data

  AND
      100 day count of Close of stocks1 is more than 85

  AND
      100 day count of Close of stocks2 is more than 85

  AND
      Volume of stocks1 is more than 100000

  AND
      volume of stocks2 is more than 100000

  AND
      stocks1 is at least 5

  AND
      stocks2 is at least 5
# compute the correlation 1 time into a variable

  AND
      corr_value = 100 day correlation of stocks1 and stocks2
# check the quality of the correlation

  AND
      corr_value < 1.0
```

Installing the MIM Correlation Tool

Login as "lim" and make sure you are located in the "/home/lim" directory.

Untar the correlation.tar file using the following command:

```
tar – xvf correlation.tar
```

When the user untars the correlation.tar file the following directories are created:

- ~/xmim/bin (contains the correlation.jar and run.correlation files)
- ~/correlation (the working directory)
- ~/correlation/source (the source directory that contains the input file "indlist")

Modifying the indlist File

The indlist file holds all of the symbols sorted by the security category. If a security is removed by a stock exchange or added by an exchange then it is desirable to remove/add the ticker from/to the list.

To modify the indlist file, change to the ~/correlation/source directory and use an editor to add or remove the security ticker and category name in the file.

The following shows a portion of an indlist file. The ticker name is followed by the security category name:

```
GII.BDG.NYSE    AutoParts&Equipment
GII.CTB.NYSE    AutoParts&Equipment
GII.GT.NYSE     AutoParts&Equipment
GII.ABN.NYSE    Banks
GII.AIB.NYSE    Banks
GII.ANZ.NYSE    Banks
GII.BAP.NYSE    Banks
GII.BB.NYSE     Banks
GII.BBDA.NASDAQ Banks
GII.BCH.NYSE    Banks
GII.BCM.NYSE    Banks
GII.BFR.NYSE    Banks
GII.BLX.NYSE    Banks
GII.BMO.NYSE    Banks
GII.BNS.NYSE    Banks
GII.BPC.NYSE    Banks
GII.ESF.NYSE    Banks
GII.IRE.NYSE    Banks
GII.KB.NYSE     Banks
--More--(3%)
```

Running the MIM Correlation Tool

From a command prompt, type:

```
run.correlation
```

.csv Results File

The program will begin processing the CorrelationResults.csv file (located in the ~/correlation/work directory) that contains the final correlation results.

It may take 9 hours to process the correlation of the entire indlist file.

The CorrelationResults.csv file contains: the date, industry name, security ticker symbols, and the correlation statistic. FTP the CorrelationResults.csv file to the desired directory and view using a program such as Microsoft Excel®.

The following graphic shows a portion of the results file.

	A	B	C	D	E	F
23	9/19/2003	Advertising	GII.IPG.NYSE	GII.VTIV.NASDAQ	0.692	
24	9/19/2003	Advertising	GII.IPG.NYSE	GII.WPPGY.NASDAQ	0.785	
25	9/19/2003	Advertising	GII.OMC.NYSE	GII.VTIV.NASDAQ	0.816	
26	9/19/2003	Advertising	GII.LAMR.NASDAQ	GII.POS.NYSE	0.828	
27	9/19/2003	Advertising	GII.OMC.NYSE	GII.WPPGY.NASDAQ	0.853	
28	9/19/2003	Advertising	GII.VTIV.NASDAQ	GII.WPPGY.NASDAQ	0.874	
29	9/19/2003	Advertising	GII.IPG.NYSE	GII.OMC.NYSE	0.908	
30	9/19/2003	Aerospace_Defense	GII.ATK.NYSE	GII.EASI.NASDAQ	-0.506	
31	9/19/2003	Aerospace_Defense	GII.BA.NYSE	GII.ATK.NYSE	-0.454	
32	9/19/2003	Aerospace_Defense	GII.NOC.NYSE	GII.RTN.NYSE	-0.373	
33	9/19/2003	Aerospace_Defense	GII.ATK.NYSE	GII.BEAV.NASDAQ	-0.368	
34	9/19/2003	Aerospace_Defense	GII.AH.NYSE	GII.ATK.NYSE	-0.358	

CorrelationResults

Unknown Zone