

Technical Analysis Using *iGuideStocks*

Part 2



Agenda

- How to Write Stock Scanner for Buy / Sell
- How to Write Filters and Queries
- Identify Candle Stick patterns
- Compare Strategies

Stock Scanner for Buy / Sell

- *iGuideStocks* provides facility to write formula, which can display the graph with different colors and with comments / pattern
- A single formula can be used for any type of display.
- You can display Strong Buy/Strong Sell/Buy/Sell on stock screening panel using different colors.
- After loading all stocks in memory using DataManager *iGuideStocks* can scan stock very fast. Any formula returns result with in 5 seconds for 500 stocks or more.
- Function call is allowed within formula for reusability

Stock screening

- Function *alert* and variable *buytype* are two key variables used by stock screener.
- *alert function* allows you to display any string.
- *Buytype* variable can have 4 values *strongbuy*, *strongsell*, *buy*, *sell*.
- Different buy / sell type are displayed in different colors
- Write formula using formula editor and save it, then click on “stock screener” icon
- Select the category on which you would like to run screener and select formula you would like to run
- Use *DataManager* to download all data before executing scanners for faster results

Stock Screener to find out Candle stick pattern

- *Candle* is an in-built strategy within software which identifies all candle stick pattern.
- Displays all candle stick patterns occurring and displays buy/sell signal according to occurrence of pattern.
- *Candle* formula uses inbuilt candle stick library provided within software.

Candle Formula

```
PATTERN := " "  
IF ( GREENCANDLE )  
{  
  PATTERN := PATTERN + " GREENCANDLE"  
  buytype := "buy"  
}  
ELSE  
{  
  PATTERN := PATTERN + " REDCANDLE"  
  buytype := "sell"  
}  
IF ( BEARISHEVENINGDOJISTAR )  
{  
  PATTERN := PATTERN + " BEARISHEVENINGDOJISTAR"  
  buytype := "strongsell"  
}  
IF ( BEARISHHARAMI )  
{  
  PATTERN := PATTERN + " BEARISHHARAMI"  
  buytype := "strongsell"  
}  
IF ( BULLISHENGULFING )  
{  
  PATTERN := PATTERN + " BULLISHENGULFING"  
  buytype := "strongbuy"  
}  
ALERT{ PATTERN }
```

Result ran on NASDAQ-100

you can right formulaes

Symbol	Buy/Sell	Pattern
CTXS	BUY	GREENCANDLE
DELL	SELL	REDCANDLE
DISH	BUY	GREENCANDLE HAMMER
DTV	SELL	REDCANDLE
EBAY	SELL	REDCANDLE
ERTS	SELL	REDCANDLE
ESRX	SELL	REDCANDLE
EXPD	SELL	REDCANDLE
EXPE	SELL	REDCANDLE
FAST	BUY	GREENCANDLE
FISV	BUY	GREENCANDLE HAMMER HANGINGMAN
FLEX	BUY	GREENCANDLE HAMMER
FLIR	STRONGBUY	GREENCANDLE INVERTEDHAMMER
FSLR	SELL	REDCANDLE
FWLT	BUY	GREENCANDLE
GENZ	SELL	REDCANDLE
GILD	SELL	REDCANDLE
GOOG	SELL	REDCANDLE
GRMN	BUY	GREENCANDLE
HANS	SELL	REDCANDLE HAMMER
HOLX	SELL	REDCANDLE
HSIC	SELL	REDCANDLE HAMMER HANGINGMAN
IACI	SELL	REDCANDLE
ILMN	STRONGBUY	REDCANDLE INVERTEDHAMMER
INFY	BUY	GREENCANDLE
PAYX	SELL	REDCANDLE HAMMER
PCAR	STRONGBUY	GREENCANDLE BULLISHENGULFING
PDCO	SELL	REDCANDLE
PPDI	SELL	REDCANDLE
QCOM	BUY	GREENCANDLE
RIMM	BUY	GREENCANDLE HAMMER
ROST	SELL	REDCANDLE

RSI Strategy for Buy / Sell

- RSI – Result Strength Index is an important indicator
- The value of RSI greater than 70 indicates stock is overbought and less than 30 indicates oversold
- We will write our formula so that we can use it for screener and also for drawing
- Our exercise is to write formula in such a way that for RSI 70-80 it shows sell and above it shows strongsell also between 30-20 shows buy and below 20 shows strongbuy
- We also want to display RSI value on screener

RSI Scanner Formula

```
A := RSI[14;0]
@PRINTLN{A}
IF ( A > 99 )
{
}
ELSE IF ( A < 1 )
{
}
ELSE IF ( A > 80 )
{
  BUY{"SB"}
  BUYTYPE := "STRONGBUY"
}
ELSE IF ( A >= 70 AND A <= 80 )
{
  BUY{"B"}
  BUYTYPE := "BUY"
}
ELSE IF ( A < 20 )
{
  SELL{"SS"}
  BUYTYPE := "STRONGSELL"
}
ELSE IF ( A < 30 AND A > 20 )
{
  SELL{"S"}
  BUYTYPE := "SELL"
}
PATTERN := "RSI IS " + A
ALERT{PATTERN }
```

RSI Scanner output

Welcome to best charting software of world

Symbol	Buy/Sell	RSI IS	Pattern
PAYX		RSI IS 56.257645	
PCAR		RSI IS 62.403538	
PDCO		RSI IS 68.803024	
PPDI		RSI IS 45.777534	
QCOM	BUY	RSI IS 74.27998	
RIMM		RSI IS 65.943115	
ROST	BUY	RSI IS 79.57617	
RYAAY		RSI IS 49.520702	
SBUX		RSI IS 63.037907	
SHLD		RSI IS 55.3086	
SIAL		RSI IS 64.408005	
SPLS		RSI IS 65.07288	
SRCL		RSI IS 64.53041	
STLD	BUY	RSI IS 73.392624	
STX	BUY	RSI IS 76.272606	
SYMC		RSI IS 67.01506	
TEVA		RSI IS 55.991535	
URBN		RSI IS 62.258938	
VRSN	BUY	RSI IS 73.27203	
VRTX		RSI IS 53.404583	
WCRX	BUY	RSI IS 76.98142	
WYNN		RSI IS 59.132122	
XLNX		RSI IS 55.56424	
XRAY		RSI IS 50.339733	
YHOO	BUY	RSI IS 79.145546	
AAPL	STRONGBUY	RSI IS 80.49202	
ADBE	BUY	RSI IS 77.00956	
ADP		RSI IS 60.122734	
ADSK		RSI IS 55.538445	
AKAM		RSI IS 53.830147	
ALTR	BUY	RSI IS 74.709114	
AMAT	STRONGBUY	RSI IS 81.69174	
AMGN	BUY	RSI IS 74.17092	
AMZN		RSI IS 69.65433	

Writing Filters and Queries

- *iGuideStocks has its own proprietary sql query engine*
- The query engine runs on cached data using which you can write any query and can get any data in any format.
- The query engine give user tremendous power of filtering stock and getting specific data
- All data can also be sorted using any mathematical expression
- Output data can be exported to csv file for personal use
- Query engine can use external formula and customized columns
- Query engine returns result within 5 second as data is loaded in memory using DataManager

How to use IGS Query Engine

- Click on “Write/Execute Filter” icon on Main Panel
- Download all data for the category you would like run Filter
- Select Category
- Select or write your own IGS Query
- Click on Execute

Example 1

- Write a query against NASDAQ-100 and get all stocks which are in green today. The output should have following value and displayed in same format

Symbol,Open,high,low,close,volume

- The query will look like this

Select symbol,open[0],high[0],low[0],close[0],volume[0] from table where close[0] > open[0]

Output

The screenshot shows the iGuide Stocks application window. The title bar reads "iGuide Stocks". The menu bar includes "File", "View", "Configure", and "Help". Below the menu bar is a toolbar with various icons for charting and data manipulation. A status bar at the top indicates "Year", "Line", and "1-Day" views. A black banner with the text "you can write scan" is visible. On the left, a tree view shows a folder structure under "Indexes" with sub-folders like ^IXTR, mahesh, ^NBI, ^DJI, ^IXK, Indices, ^DJA, ^XBK, ^XF, ^XUT, ^DJU, ^OEX, ^DJT, ^MID, ^XIS, and ^NDX. The main area displays an "IGS SQL Query" window with the query: "Select symbol,open[0],high[0],low[0],close[0],volume[0] from table where close[0] > open[0]". Below the query is a table with the following data:

SYMBOL	OPEN[0]	HIGH[0]	LOW[0]	CLOSE[0]	VOLUME[0]
AAPL	149.08	152.02	148.63	151.75	21486700.00
ADBE	30.90	31.06	30.39	31.02	6301300.00
ADSK	18.73	18.88	18.58	18.77	2635000.00
AKAM	19.59	19.98	19.28	19.64	7408800.00
ALTR	17.25	17.42	17.00	17.41	7579500.00
AMZN	85.80	86.50	85.20	85.85	5051600.00
APOL	66.48	67.16	65.54	66.97	1799600.00
ATVI	11.60	11.79	11.52	11.70	14121700.00
BBBY	31.93	32.86	31.70	32.65	6527200.00
BIDU	320.87	323.69	316.21	321.60	1708300.00
BRCM	27.00	27.50	26.60	27.47	8723700.00
COST	47.37	47.49	46.97	47.48	3293600.00
CSCO	20.18	20.58	19.98	20.51	69173296.00
CTSH	28.52	29.51	28.28	29.02	7377800.00
CTXS	34.62	35.12	34.51	34.99	3544300.00
DISH	16.09	16.29	15.74	16.14	2359900.00
FAST	32.84	33.32	32.71	33.09	1524700.00
FISV	47.90	47.99	47.33	47.91	1308000.00
FLEX	4.88	4.94	4.71	4.90	6425000.00
FLIR	23.04	23.75	22.82	23.17	1888100.00
FWLT	21.54	22.09	21.16	21.75	2899100.00
GRMN	24.40	24.88	24.40	24.60	1786200.00
INFY	38.15	38.87	37.67	38.74	2860000.00
INTC	18.50	18.81	18.25	18.79	84199200.00
JAVA	9.15	9.18	9.12	9.17	17720400.00
JNPR	25.06	25.25	24.79	25.19	9343200.00

Example 2

- Now using our previous example lets add filters
- Suppose we are looking for stocks starting with letter a or b

Our query will change like this

Select symbol,open[0],high[0],low[0],close[0],volume[0] from table where close[0] > open[0] and symbol like a or symbol like b

- Now we would like to sort data by closing price, our query will change to

Select symbol,open[0],high[0],low[0],close[0],volume[0] from table where close[0] > open[0] and symbol like a or symbol like b sortby close[0]

Output

The screenshot shows the iGuide Stocks application interface. The main window displays an SQL query and its results. The query is: `Select symbol,open[0],high[0],low[0],close[0],volume[0] from table where close[0] > open[0] and symbol like a or symbol like b sortby close[0]`. The results are shown in a table with the following columns: SYMBOL, OPEN[0], HIGH[0], LOW[0], CLOSE[0], and VOLUME[0].

SYMBOL	OPEN[0]	HIGH[0]	LOW[0]	CLOSE[0]	VOLUME[0]
ATVI	11.80	11.79	11.52	11.70	14121700.00
ALTR	17.25	17.42	17.00	17.41	7579500.00
ADSK	18.73	18.88	18.58	18.77	2635000.00
AKAM	19.59	19.98	19.28	19.64	7408800.00
BRCM	27.00	27.50	26.60	27.47	8723700.00
ADBE	30.90	31.06	30.39	31.02	6301300.00
BBBY	31.93	32.86	31.70	32.65	6527200.00
BIIB	46.75	47.18	45.87	46.07	3379300.00
APOL	66.48	67.16	65.54	66.97	1799600.00
AMZN	85.80	86.50	85.20	85.85	5051600.00
AAPL	149.08	152.02	148.63	151.75	21486700.00
BIDU	320.87	323.69	316.21	321.60	1708300.00

Example 3

- In this example we will add a customized column in our query and will sort data using that customized column
- Lets say we need to sort all data by monthly change (20 trading session)
- Our output requires symbol's current closing price, closing price one month back and percentage change in price .
- Using # (predefined variable) we can achieve our goal like this

```
#monthlychange:( ( close[0] - close[-20] ) / close[-20] ) * 100
```

```
select symbol,close[0],close[-20],monthlychange[0] from table sortby monthlychange[0]
```

Example 4

- In this example, we will use a variable defined in a formula into a query as an output
- Our exercise is to find out number of days stock's closing price is greater than opening price (for last 4 days)
- Our output variables are symbol and noofdays
- To complete this exercise we need to first write formula and define variable noofdays

Continued...

- We defined our formula named it noofdaysup and saved it in library directory.
- The function must have last statement returning some value, which can be used in where clause . In this case we will return a true and will use the same in where clause

Formula

```
NOOFDAYS := -1
IF ( CLOSE[0] > OPEN[0] )
{
    NOOFDAYS := 1
}
IF ( ( CLOSE[0] > OPEN[0] ) AND ( CLOSE[-1] > OPEN[-1] ) )
{
    NOOFDAYS := 2
}
IF ( ( CLOSE[0] > OPEN[0] ) AND ( CLOSE[-1] > OPEN[-1] ) AND ( CLOSE[-2] > OPEN[-2] ) )
{
    NOOFDAYS := 3
}
IF ( ( CLOSE[0] > OPEN[0] ) AND ( CLOSE[-1] > OPEN[-1] ) AND ( CLOSE[-2] > OPEN[-2] ) AND
    ( CLOSE[-2] > OPEN[-2] ) )
{
    NOOFDAYS := 4
}
A := TRUE
```

Query

- *select symbol, noofdays from table where noofdaysup sortby -1 * noofdays*

Output

The screenshot shows the iGuide Stocks application window. The title bar reads "i Guide Stocks". The menu bar includes "File", "View", "Configure", and "Help". Below the menu is a toolbar with various icons for navigation and analysis. A sidebar on the left lists "Indexes" with sub-items: ^IXTR, mahesh, ^NBI, ^DJI, ^IXK, Indices, ^DJA, ^IXBK, ^IXF, ^IXUT, ^DJU, ^OEX, ^DJT, ^MID, ^IXIS, and ^NDX. The main area displays an "IGS SQL Query" window with the following query: `select symbol,noofdays from table where noofdaysup orderby -1 * noofdays`. Below the query is a table with two columns: "SYMBOL" and "NOOFDAYS". The table contains 30 rows of data, all with a value of 4.00 in the "NOOFDAYS" column.

SYMBOL	NOOFDAYS
AAPL	4.00
ADBE	4.00
ADSK	4.00
AKAM	4.00
AMZN	4.00
BBBY	4.00
BIDU	4.00
BRCM	4.00
COST	4.00
CSCO	4.00
CTSH	4.00
CTXS	4.00
DISH	4.00
FAST	4.00
FISV	4.00
FLIR	4.00
FWLT	4.00
GRMN	4.00
INFY	4.00
INTC	4.00
JOYG	4.00
KLAC	4.00
LBTYA	4.00
LOGI	4.00
LRCX	4.00
MCHP	4.00
MICC	4.00

Candle Stick Pattern

- *iGuideStocks* supports major candle stick patterns
- **Doji** → It is characterized by being small in length - meaning a small trading range - with an opening and closing price that are almost equal
- **Hammer** → *forms when a security moves significantly lower after the open, but rallies at close well above the intraday low. looks like a square lollipop with a long stick.*
- **Hanging man** → *if hammer occurs during an advance, then it is called a Hanging Man.*
- **Harami** → *A two day pattern that has a small body day completely contained within the range of the previous body, and is the opposite color.*

- Lets find out candle stick patterns using igs in a security

```
if ( doji )
{
    buy{"doji"}
}
if ( hammer )
{
    sell{"hammer"}
}
if ( hangingman )
{
    buy{"han.man"}
}
if ( harami )
{
    sell{"harami"}
}
```

Output



Backtesting

- Backtesting is process using which trader try to estimate how financial instruments would have performed in the past had a particular mechanical trading system been employed to trade them.
- Using *iGuideStocks* traders can back test their strategy and can find out how much profit/loss he/she would have made using the strategy
- Click on backtest icon after executing any formula
- You need to setup your backtest parameter like brokerage charge, initial amount, type of brokerage from main menu

Example 1

- Select bullishbearishmacdcross over formula from formula editor
- Click on execute, Screen will display buy / sell arrow as indicated in the next output slide
- Now click on backtest to view the results.

Output 1



Back test result

Trans. Type	Shares	Date	Price	Value
Buy	103.75	2009-03-13	96.3	9992.0
Sell	103.75	2009-04-23	126.62	13129.976
Buy	105.27	2009-04-24	124.64	13121.976
Sell	105.27	2009-04-27	122.9	12930.79
Buy	98.08	2009-05-05	131.75	12922.79
Sell	98.08	2009-05-08	129.04	12648.978
Buy	93.36	2009-05-29	135.39	12640.978
Sell	93.36	2009-06-15	136.01	12690.864
Buy	89.79	2009-07-02	141.25	12682.864
Sell	89.79	2009-07-06	138.7	12445.899
Buy	85.33	2009-07-16	145.76	12437.899

Total Amount Invested Initially	10000.0
Transaction Type	Fix-Amount
Transaction Amount/Percentage	8.0
% of Amt invested on buy signal	1.0
% of Share soled on sell signal	1.0
Total Transactions Done	11
Total Buy Transaction Done	6
Total Buy Transaction Done	5
No of winning trade	2
Total Amount Currently	12949.03
Total Cash	0.0
Total Share	85.33
% Loss Profit	29.490353

Comparing Strategy

- In *iGuideStocks* you can compare multiple strategy and their returns.
- This is very useful in selecting best strategy among multiple strategies.
- Click on “Portfolio Backtesting and Compare”, Select category for which you want to compare strategies.
- Select strategies for comparison, Click execute and you will see the profit / loss return result of multiple strategies.

Output

you can write scan

Symbol	buyhold.fl	bullishbearishmacdcrossover.fl	mmadivergence.fl
AA	-16.4	25.0	17.5
AXP	45.8	129.3	87.6
BA	-9.1	34.8	25.6
BAC	-10.4	0.0	73.3
CAT	-27.5	36.9	2.0
OSCO	21.6	12.9	-3.4
CVX	-14.5	6.2	-1.5
DD	5.4	29.8	23.6
DIS	4.1	27.7	29.8
GE	-32.2	38.1	54.8
HD	2.6	15.5	8.0
HPQ	8.5	13.7	-2.4
IBM	33.4	17.1	-2.0
INTC	24.5	2.0	-12.7
JNJ	-2.0	7.1	4.3
JPM	19.9	31.5	13.8
KFT	0.6	13.4	-3.3
KO	10.3	15.7	15.4
MCD	-8.6	6.2	-7.0
MMM	6.9	19.7	18.0
MRK	-12.0	0.6	-6.2
MSFT	20.1	15.4	27.4
PFE	-18.7	3.1	-16.6
PG	-10.3	7.6	-8.8
T	-16.8	-3.1	-14.9
TRV	-9.7	11.6	-13.8
UTX	-1.0	24.4	30.5
VZ	-12.2	11.5	-3.3
WMT	-14.9	-10.6	-10.0
XOM	-15.7	-1.1	-8.0

Thank You !!!