



Candlestick Library Plug-in User Guide

A Plug-in for the Visual Traders Studio MetaTrader 4 Expert Advisor Builder

Programmatically identify over 50 of the most powerful and useful candlestick patterns.

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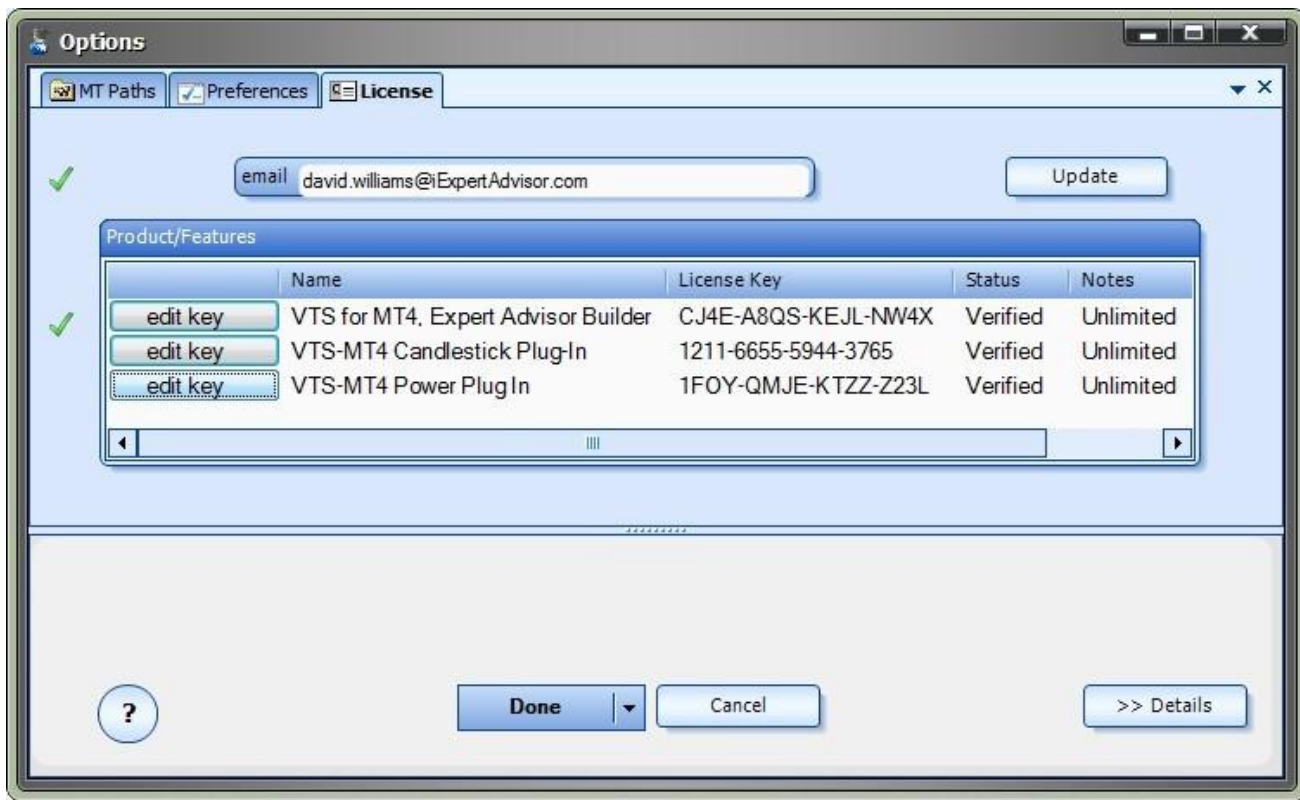
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Enable the Candlestick Library Plug-in

You must enter your License key to enable the Candlestick Library Plug-in. The license key for all of your VTS products can be found in the [Members Area](#).

License keys are entered in Visual Traders Studio (VTS) from the License entry tab.

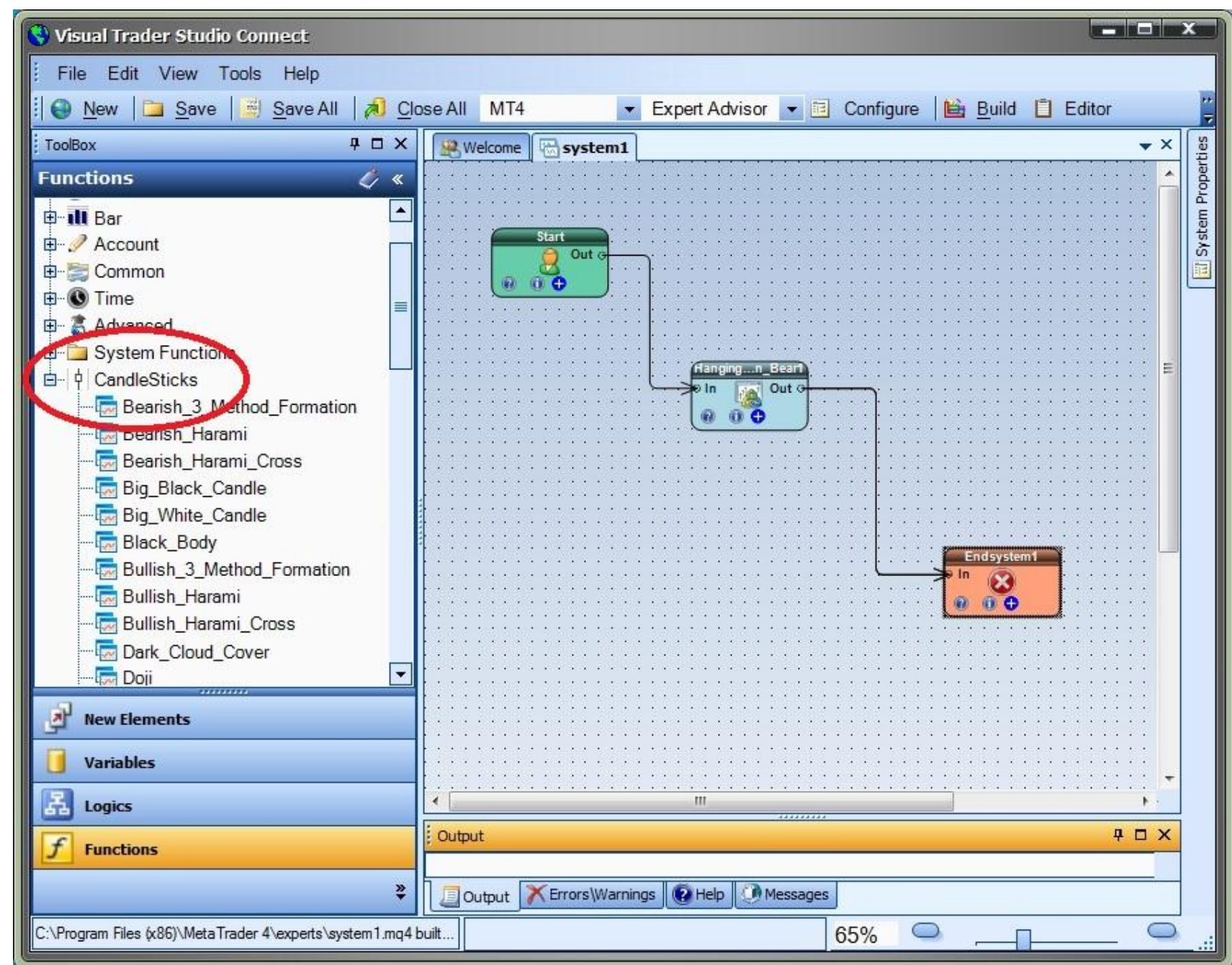
- The **email** address is the email address used to purchase [VTS](#).
- The **License Key** is the key that is sent to the email address.
- The **Verify** button is used to verify the email address and license key.
- The **Add** button is used to add a key.
- The **Remove** button is used to remove a key.
- Double-click a key to edit its value.



Candlestick Functions in the Toolbox

Once enabled, the Candlestick functions are available in the [Toolbox](#) Function tab under the **Candlesticks** menu.

These functions are dragged and dropped from the Toolbox onto the [Drawing Pad](#) like any other functions.



Candlestick Function Parameters

After a Candlestick function has been added to a Drawing, it is configured by clicking the (+) button along the bottom of the Element.

The [Function Configuration](#) window allows you to select values for each parameter.

All Candlestick functions have the parameters **Symbol**, **Timeframe** and **Shift**.

Parameter Name	Data type	Description
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Symbol	String	The symbol of the currency to search for the pattern, such as EURUSD, USDJPY, etc.
Timeframe	Integer	The timeframe of the currency to search for the pattern. MetaTrader supports values from 1 minute (PERIOD_M1) to 1 month (PERIOD_MN1).
Shift	Integer	The candle index at which to start searching for the pattern. Zero starts at the currently forming candle, one starts at one candle to the left, etc.

Candlestick functions that use the terms "long" or "short" have the additional parameters ***longbody and shortbody***.

Parameter Name	Data type	Description
longbody	double	The minimum value of a candle body to be determined as long.
shortbody	double	The maximum value of a candle body to be determined as short.

If the value of ***longbody*** is left as 0 (the default value), the candle function will automatically calculate the minimum ***longbody*** value as 2 times the 4-period ATR (average true range) for the given symbol and timeframe:

$$2 * iATR(symbol, timeframe, shift)$$

If the value of ***shortbody*** is left as 0 (the default value), the candle function will automatically calculate the maximum ***shortbody*** value as the 4-period ATR (average true range) for the given symbol and timeframe:

$$iATR(symbol, timeframe, shift)$$

The ***longbody and shortbody*** parameters can be set to any value using any combination of arithmetic and/or MetaTrader platform functions.

This is the candle function configuration window for the ***Bearish Harami*** candlestick pattern:.

Double-click the top of the Bearish_Harami1 element to open its drawing

Configure Bearish_Harami Notes Message Drawing (read-only)

Parameter 1 of 5

symbol: CHART

Parameter 2 of 5

timeframe: CHART

Parameter 3 of 5

shift: 1

Parameter 4 of 5

longbody: 0

Parameter 5 of 5

shortbody: 0

Name:

Bearish_Harami1

? Done OK >> Details

Candlestick Drawing

The Candlestick functions were created as [Drawing functions](#).

To open the drawing of any Candlestick function, drag the function from the [Toolbox](#) onto the [Drawing Pad](#) and double-click the [Element](#) in the caption area.

Each candlestick drawing contains the same Elements:

- One Start Element
- 3- 5 Variable Elements defined with a scope of [Parameter](#)
- 4-N MetaTrader price functions, such as iClose, iOpen, iHigh and iLow
- One [Logic](#) Element
- Two End Elements, one for True and one for False
- An image of the Candlestick pattern (for reference only, the image is not connected to any Elements)

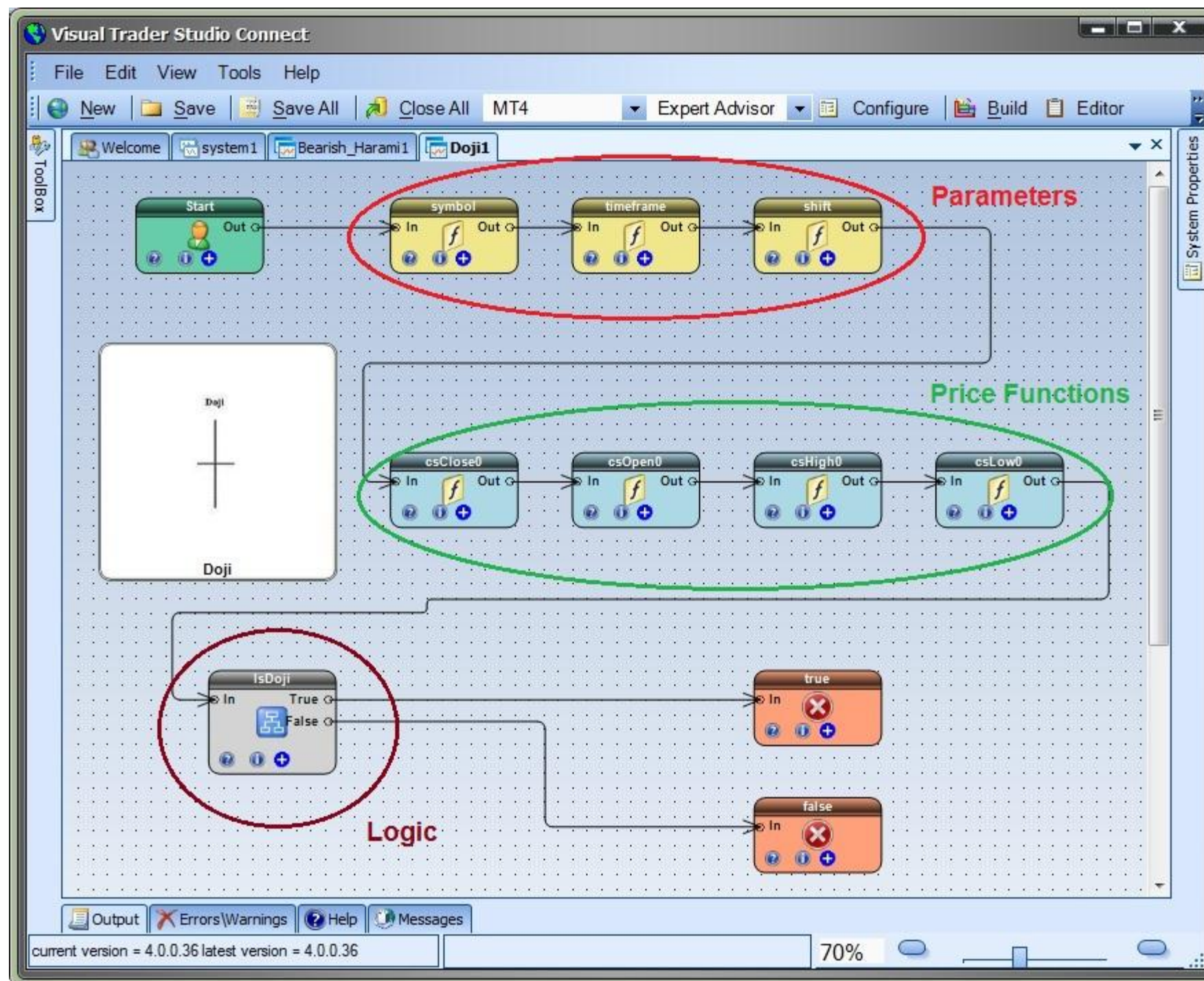
The first row of Elements contains the Parameter Variables. These are the values that appear when you select the (+) button on the Candlestick function Element. These values are referenced through the rest of the drawing. For example, the Symbol and Timeframe values are used in the Price functions.

The second row of Elements contains the price functions that are used in the Logic Element to identify the candlestick pattern. The number of price functions will vary depending on the pattern. In general, the open, close, high and low price values will be need for a number of different candles consecutive candles, where the index of the candle is determined by the [shift](#) value.

The Logic Element is connected after the price functions. The Logic Element will contain many logical conditions. These conditions represent the definition of the candle pattern. For example, a **Bear** candle is defined as a candle that closed lower than it opened. (A bear candle is usually colored black or red on a price chart). This definition is logically expressed as Close < Open (The Close is less-then the open). The conditions with the logic will use price values that already considered the Symbol, Timeframe and Shift.

The drawing terminates with a True or False Element. If the Logic Element resolves to True, meaning the pattern has been recognized, then the drawing will terminate with a value of True. Otherwise the drawing will terminate with a value of False.

Note: Candlestick patterns that use the phrase *long* or *short* define two additional Parameters and two MQL Elements to calculate the values of long or short named **getlongbody** and **getshortbody**, respectively. The MQL Elements are found on the first line, connected after the parameter Elements.



Using a Candlestick Function in a Logic Element

The purpose of a Candlestick function is to identify a formed pattern on a price chart and use the knowledge that the pattern occurred in the logic of an Expert Advisor.

IsOpenBuyTrue* (Element type Logic)

Configure Power Message Notes

IsOpenBuyTrue* Condition 1: _Doji_Star1 EQUAL_TO true RETURN_TRUE

Left operand		Right operand
(_Doji_Star1		true)
Choose ...		Choose ...

Select an operator:
EQUAL_TO

Next: RETURN_TRUE

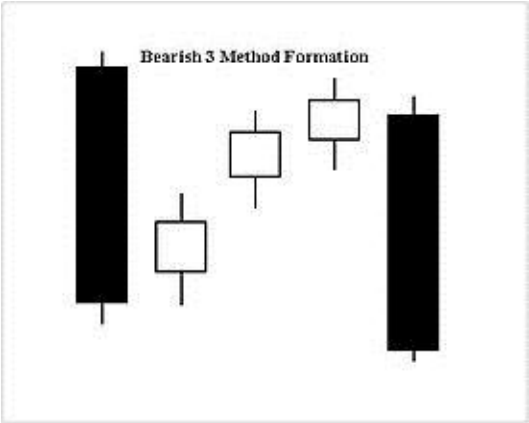
Add

Name: IsOpenBuyTrue

? Done Cancel >> Details

Candlestick Pattern Definitions

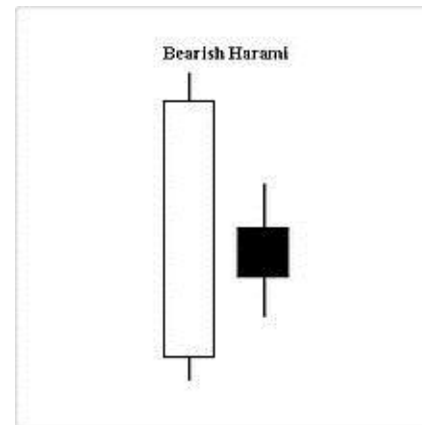
Bearish 3 Method Formation



Bearish_3_Method_Formation

It has a long black body followed by three small bodies (normally white) and a long black body. The three white bodies are contained within the range of first black body. This is considered as a bearish continuation pattern.

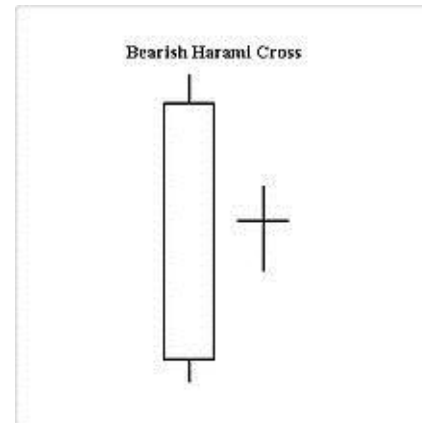
Bearish Harami



Bearish Harami

It consists of an unusually large white body followed by a small black body (contained within large white body). It is considered as a bearish pattern when preceded by an uptrend.

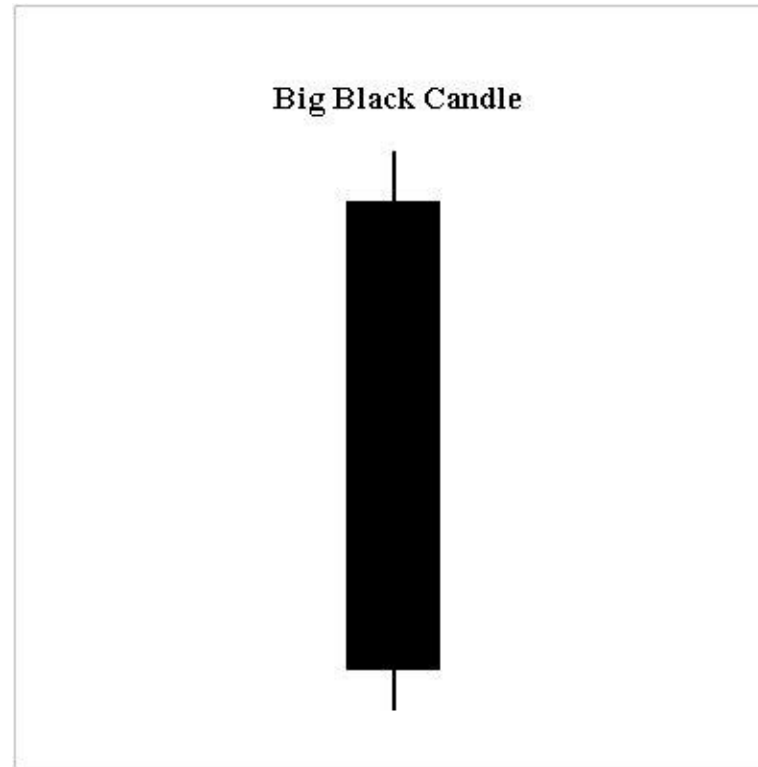
Bearish Harami Cross



Bearish Harami Cross

It has a large white body followed by a Doji. It is considered as a reversal signal when it appears at the top.

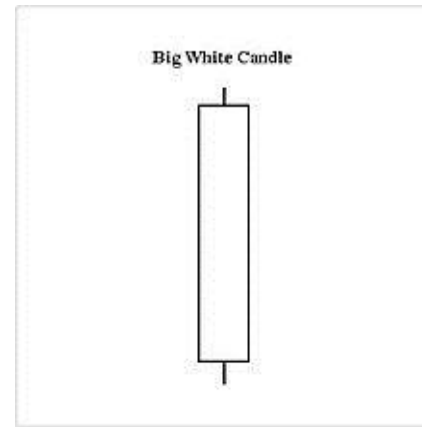
Big black candle



Big Black Candle

Has an unusually long black body with a wide range between high and low. Prices open near the high and close near the low.

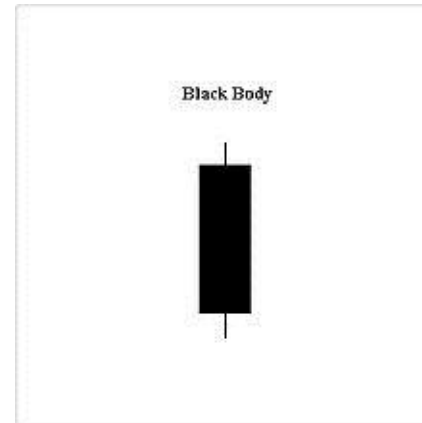
Big White Candle



Big White Candle

Has an unusually long white body with a wide range between high and low of the day. Prices open near the low and close near the high. Considered a bullish pattern.

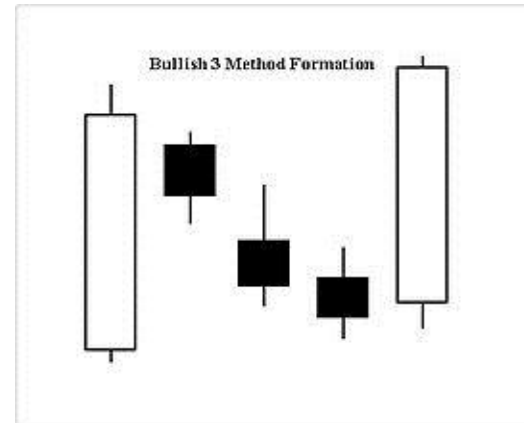
Black Body Candle



Black Body

Formed when the opening price is higher than the closing price. Considered to be a bearish signal.

Bullish 3 Method Formation



Bullish 3 Method Formation

It consists of a long white body followed by three small bodies (normally black) and a long white body. The three black bodies are contained within the range of first white body. This is considered as a bullish continuation pattern

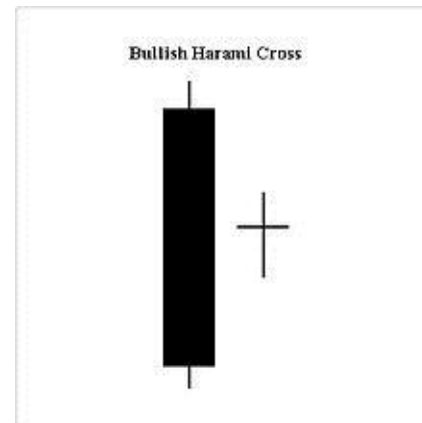
Bullish Harami



Bullish Harami

It consists of an unusually large black body followed by a small white body (contained within large black body). It is considered as a bullish pattern when preceded by a downtrend.

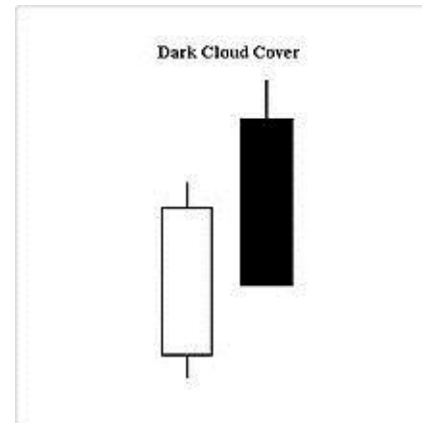
Bullish Harami Cross



Bullish_Harami_Cross

It has a large black body followed by a Doji. It is considered as a reversal signal when it appears at the bottom.

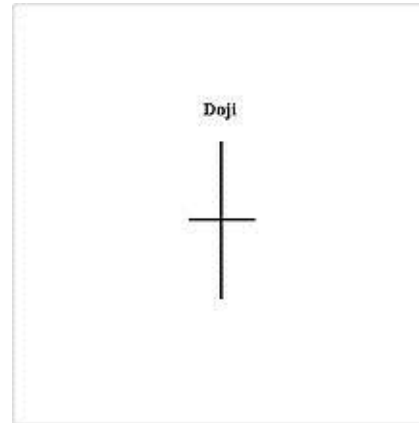
Dark Cloud Cover



Dark Cloud Cover

It consists of a long white candlestick followed by a black candlestick that opens above the high of the white candlestick and closes well into the body of the white candlestick. It is considered as a bearish reversal signal during an uptrend.

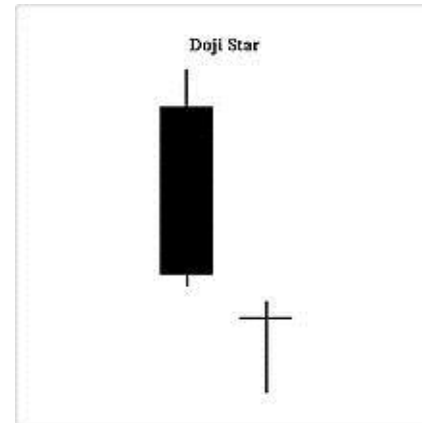
Doji



Doji

Formed when opening and closing prices are virtually the same. The lengths of shadows can vary.

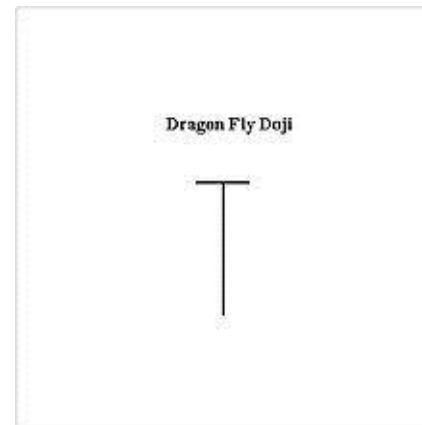
Doji Star



Doji Star

It consists of a black or a white candlestick followed by a Doji that gap above or below these. It is considered as a reversal signal with confirmation during the next trading day.

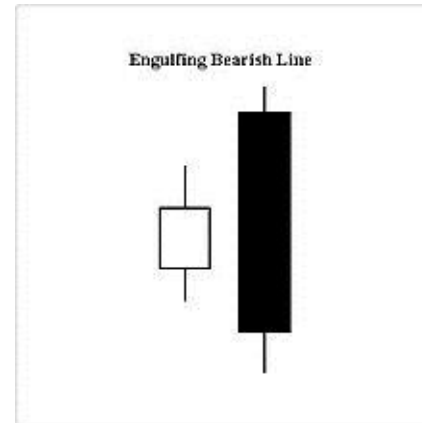
Dragon Fly Doji



Dragon Fly Doji

Formed when the opening and the closing prices are at the highest of the day. If it has a longer lower shadow it signals a more bullish trend. When appearing at market bottoms it is considered to be a reversal signal.

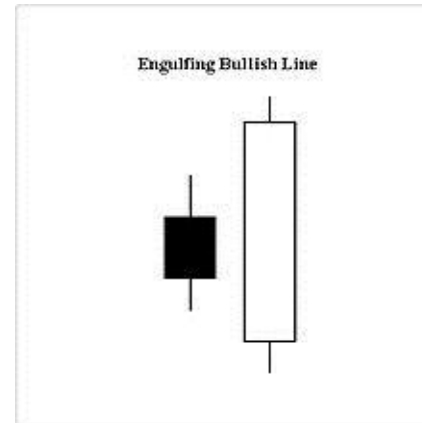
Engulfing Bearish Line



Engulfing Bearish Line

It consists of a small white body that is contained within the followed large black candlestick. When it appears at top it is considered as a major reversal signal.

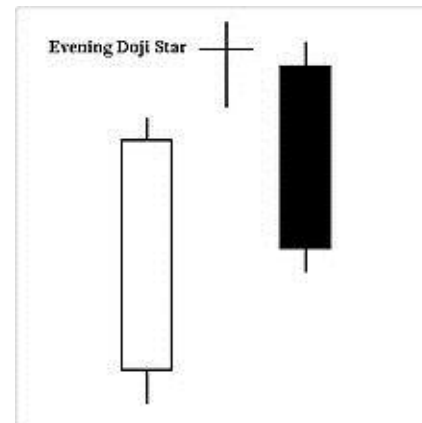
Engulfing Bullish Line



Engulfing Bullish Line

It consists of a small black body that is contained within the followed large white candlestick. When it appears at bottom it is interpreted as a major reversal signal.

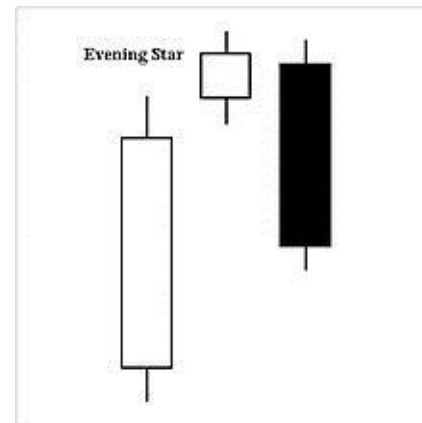
Evening Doji Star



Evening Doji Star

It consists of three candlesticks. First is a large white body candlestick followed by a Doji that gap above the white body. The third candlestick is a black body that closes well into the white body. When it appears at the top it is considered as a reversal signal. It signals more bearish trend than the evening star pattern because of the doji that has appeared between the two bodies.

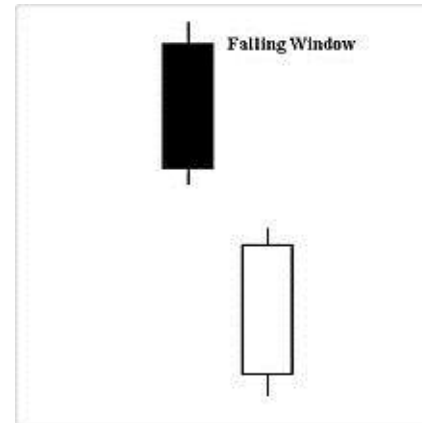
Evening Star



Evening Star

It consists of a large white body candlestick followed by a small body candlestick (black or white) that gaps above the previous. The third is a black body candlestick that closes well within the large white body. It is considered as a reversal signal when it appears at top level.

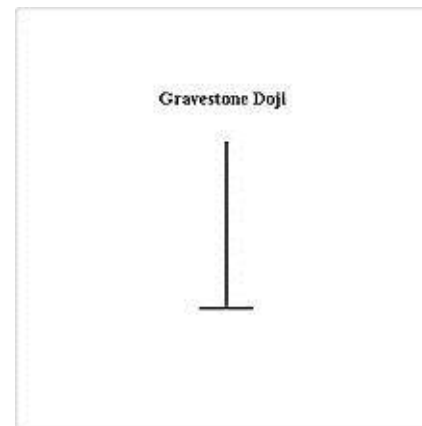
Falling Window



Falling Window

A window (gap) is created when the high of the second candlestick is below the low of the preceding candlestick. It is considered that the window should be filled with a probable resistance.

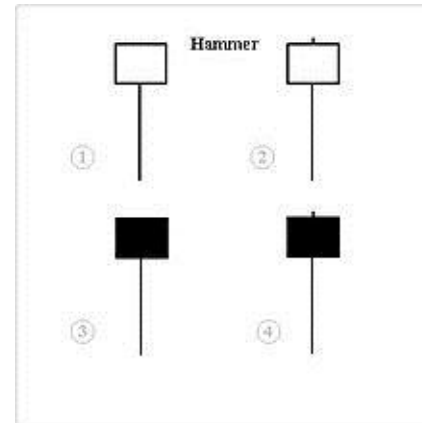
Gravestone Doji



Gravestone Doji

Formed when the opening and closing prices are at the lowest of the day. If it has a longer upper shadow it signals a bearish trend. When it appears at market top it is considered a reversal signal.

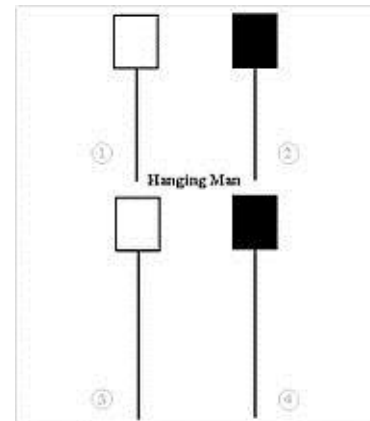
Hammer Pattern



Hammer Pattern

A black or a white candlestick that consists of a small body near the high with a little or no upper shadow and a long lower tail. Considered a bullish pattern during a downtrend.

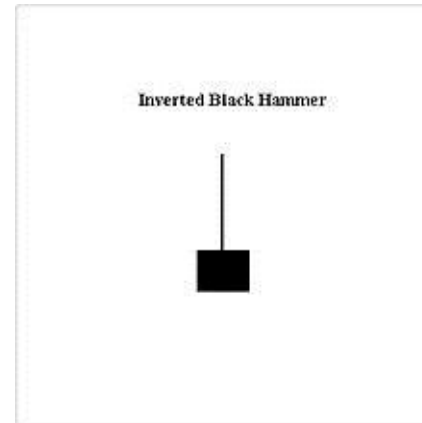
Hanging Man



Hanging Man

A black or a white candlestick that consists of a small body near the high with a little or no upper shadow and a long lower tail. The lower tail should be two or three times the height of the body. Considered a bearish pattern during an uptrend.

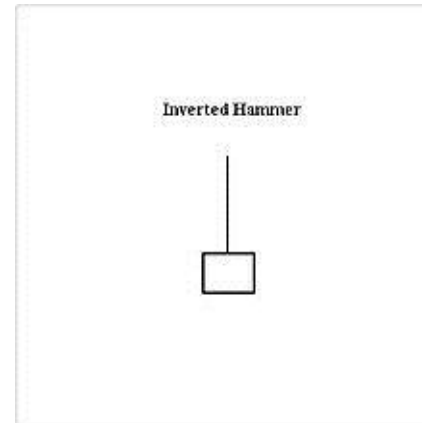
Inverted Black Hammer



Inverted Black Hammer

A black body in an upside-down hammer position. Usually considered a bottom reversal signal.

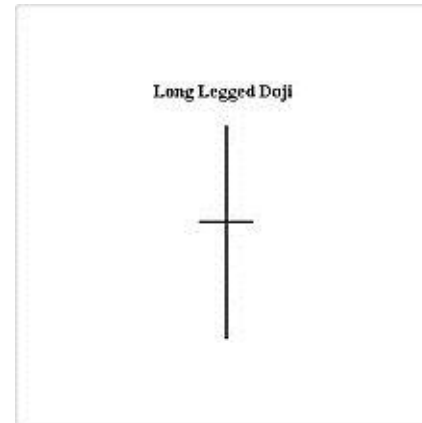
Inverted Hammer



Inverted Hammer

It consists of black or a white candlestick in an upside-down hammer position.

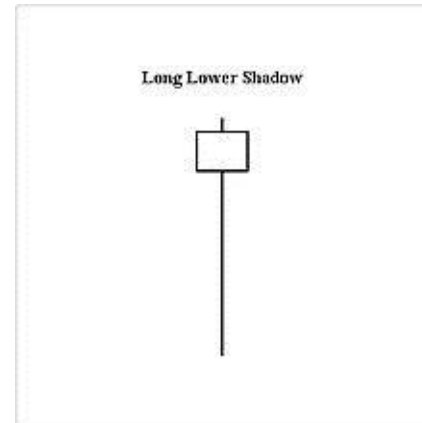
Long Legged Doji



Long Legged Doji

Consists of a Doji with very long upper and lower shadows. Indicates strong forces balanced in opposition.

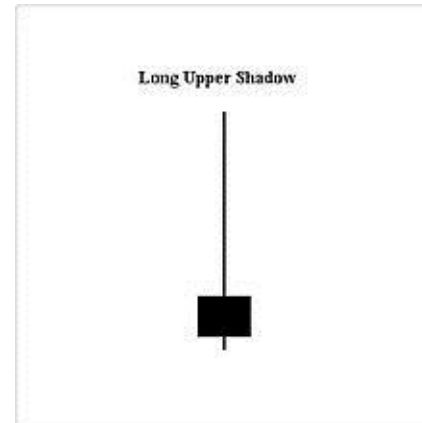
Long Lower Shadow



Long Lower Shadow

A black or a white candlestick is formed with a lower tail that has a length of $\frac{2}{3}$ or more of the total range of the candlestick. Normally considered a bullish signal when it appears around price support levels.

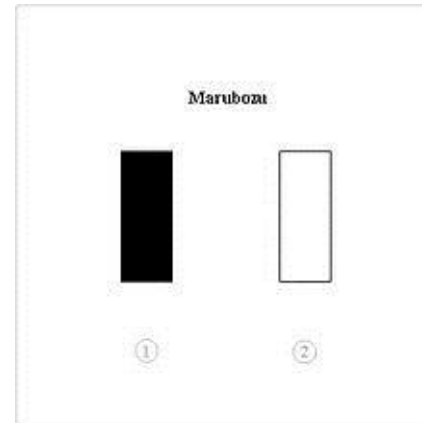
Long Upper Shadow



Long Upper Shadow

A black or a white candlestick with an upper shadow that has a length of $\frac{2}{3}$ or more of the total range of the candlestick. Normally considered a bearish signal when it appears around price resistance levels.

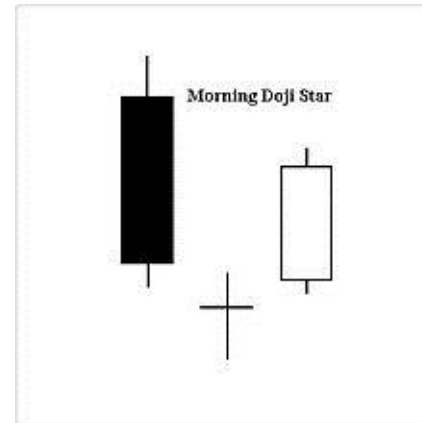
Marubozu



Marubozu

A long or a normal candlestick (black or white) with no shadow or tail. The high and the lows represent the opening and the closing prices. Considered a continuation pattern.

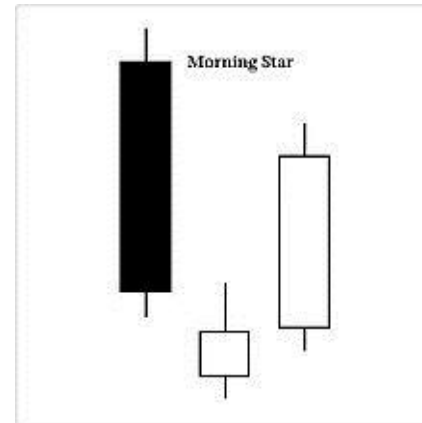
Morning Doji Star



Morning Doji Star

It consists of a large black body candlestick followed by a Doji that occurred below the preceding candlestick. On the following day, a third white body candlestick is formed that closed well into the black body candlestick which appeared before the Doji. It is considered as a major reversal signal that is more bullish than the regular morning star pattern because of the existence of the Doji.

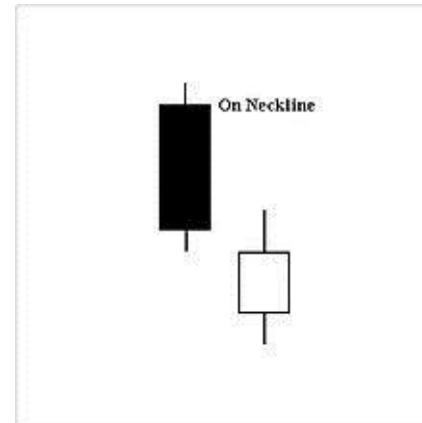
Morning Star



Morning Star

It consists of a large black body candlestick followed by a small body (black or white) that occurred below the large black body candlestick. On the following day, a third white body candlestick is formed that closed well into the black body candlestick. It is considered as a major reversal signal when it appears at bottom.

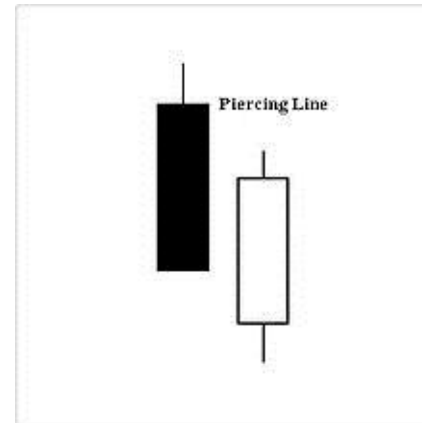
On Neckline



On Neckline

In a downtrend, it consists of a black candlestick followed by a small body white candlestick with its close near the low of the preceding black candlestick. It is considered as a bearish pattern when the low of the white candlestick is penetrated.

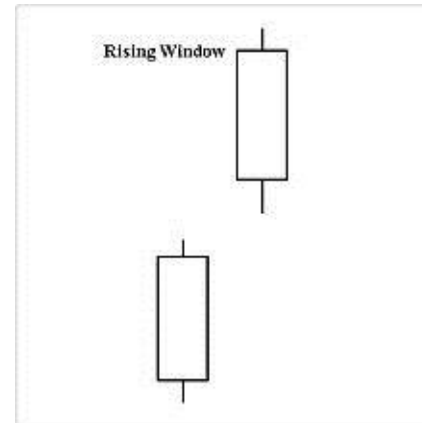
Piercing Line



Piercing Line

It consists of a black candlestick followed by a white candlestick that opens lower than the low of preceding but closes more than halfway into black body candlestick. It is considered as reversal signal when it appears at bottom.

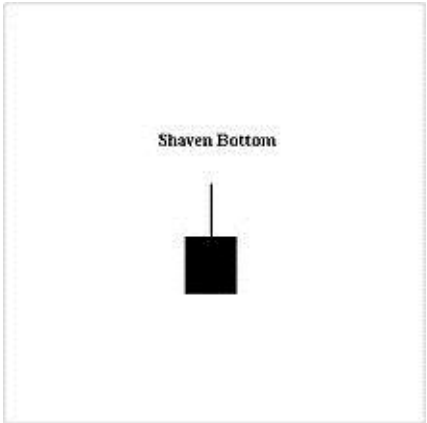
Rising Window



Rising Window

A window (gap) is created when the low of the second candlestick is above the high of the preceding candlestick. It is considered that the window should provide support to the selling pressure.

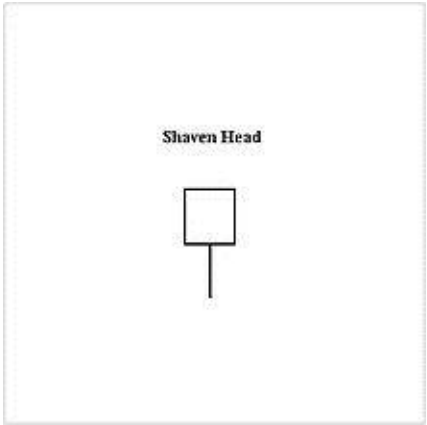
Shaven Bottom



Shaven Bottom

A black or a white candlestick with no lower tail. [Compare with Inverted Hammer.]

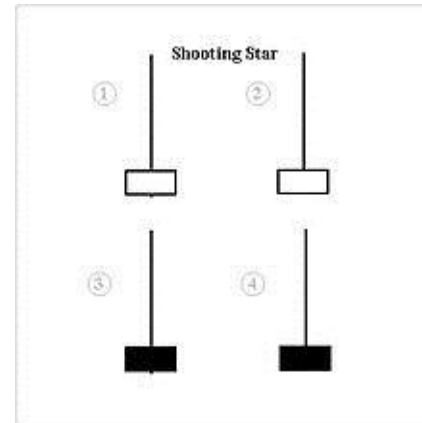
Shaven Head



Shaven Head

A black or a white candlestick with no upper shadow. [Compared with hammer.]

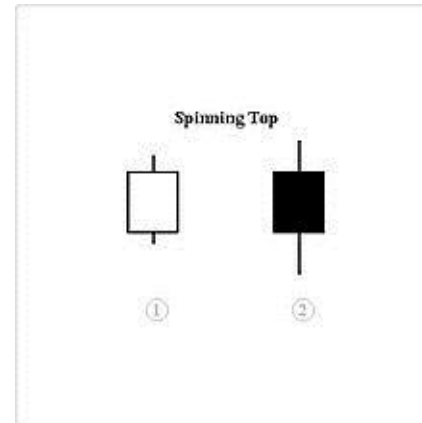
Shooting Star



Shooting Star

A black or a white candlestick that has a small body, a long upper shadow and a little or no lower tail. Considered a bearish pattern in an uptrend.

Spinning Top



Spinning Top

A black or a white candlestick with a small body. The size of shadows can vary. Interpreted as a neutral pattern but gains importance when it is part of other formations.

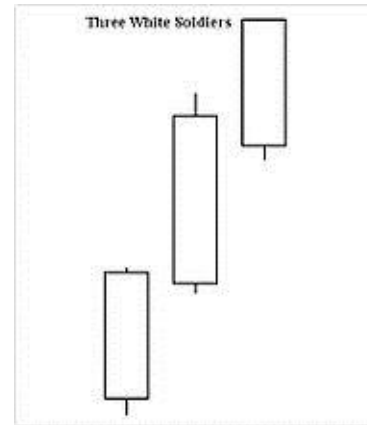
Three Black Crows



Three Black Crows

It consists of three long black candlesticks with consecutively lower closes. The closing prices are near to or at their lows. When it appears at top it is considered as a top reversal signal.

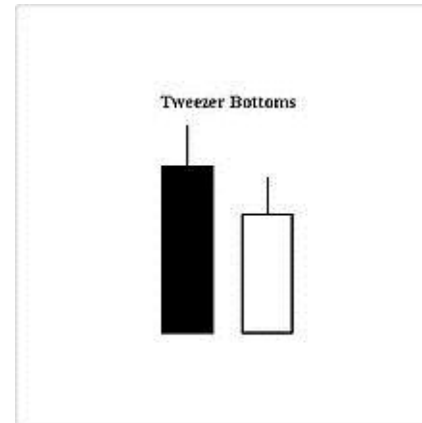
Three White Soldiers



Three White Soldiers

It consists of three long white candlesticks with consecutively higher closes. The closing prices are near to or at their highs. When it appears at bottom it is interpreted as a bottom reversal signal

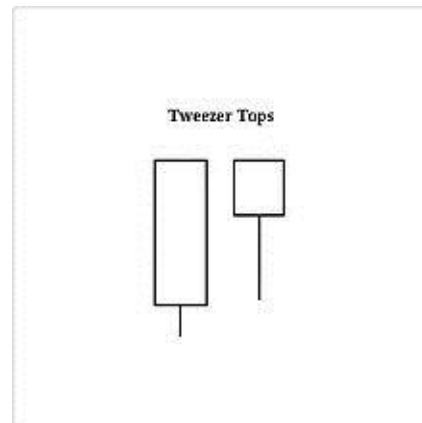
Tweezer Bottoms



Tweezer Bottoms

It consists of two or more candlesticks with matching bottoms. The candlesticks may or may not be consecutive and the sizes or the colours can vary. It is considered as a minor reversal signal that becomes more important when the candlesticks form another pattern.

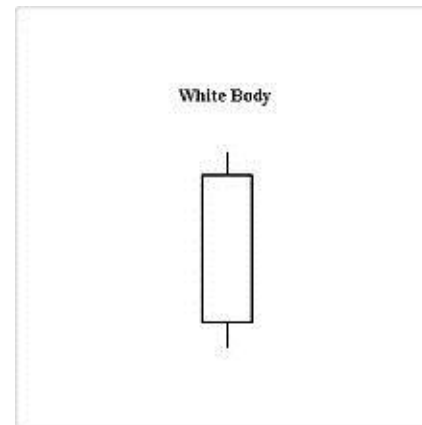
Tweezer Tops



Tweezer Tops

It consists of two or more candlesticks with matching tops. The candlesticks may or may not be consecutive and the sizes or the colours can vary. It is considered as a minor reversal signal that becomes more important when the candlesticks form another pattern.

White Body Candle



White Body Candle

Formed when the closing price is higher than the opening price and considered a bullish signal.