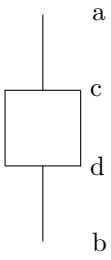
Mathematical Representations of Candle Patterns Implimented in Riski

Vittorio Papandrea

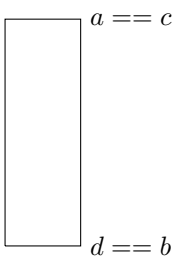
Definition 1. Candle

A candle is described as four points; $a, b, c, d \in \mathbb{R}$ such that a is the top of the wick, b is the bottom of the wick, c is the top of the body, and d is the bottom of the body. To prevent flipping of any numbers, it is required that $a \geq c \geq d \geq b$.



Lemma 1. Marubozu

A marubozu is identified as candle that has no wick. Consider a candle c defined by $a, b, c, d \in \mathbb{R}$ then candle c is a marubozu iff $a = c$ and $d = b$ and $c \neq d$



Lemma 2. Spinning Top

A spinning top is identified as candle whos ratios between body and wick are perfectly balanced. Consider a candle c defined by $a, b, c, d \in \mathbb{R}$ then candle c is a spinning top iff $|a - c| = |c - d| = |d - b|$ and $a \neq b \neq c \neq d$