תוכן העניינים

1 אינדיקטורים

הגדרה 1: ממוצע נע פשוט

20 יחידות זמן:

$$\text{SMA}_{20}[k] = \frac{1}{20}\sum_{i=1}^{20} P[k-20+i]$$

n יחידות זמן:

$$\text{SMA}_{n}[k] = \frac{1}{n}\sum_{i=1}^{n} P[k-n+i]$$

Def. 2: Weighted Moving Average

20 time units:

$$\text{WMA}_{20}[k] = \frac{\sum_{i=1}^{20} w[i]P[k-20+i]}{\sum_{i=1}^{20} w[i]}$$

n time units:

$$\text{WMA}_{n}[k] = \frac{\sum_{i=1}^{n} w[i]P[k-n+i]}{\sum_{i=1}^{n} w[i]}$$

הגדרה 3: ממוצע נע מעריכי

20 יחידות זמן:

$$\text{EMA}_{20}[k] = \alpha P[k] + (1-\alpha)\text{EMA}_{20}[k-1], \quad \alpha = \frac{2}{20+1}$$

n יחידות זמן:

$$\text{EMA}_{n}[k] = \alpha P[k] + (1-\alpha)\text{EMA}_{n}[k-1], \quad \alpha = \frac{2}{n+1}$$

Def. 4: Exponential Moving Average

20 time units:

$$\text{EMA}_{20}[k] = \alpha P[k] + (1-\alpha)\text{EMA}_{20}[k-1], \quad \alpha = \frac{2}{20+1}$$

n time units:

$$\text{EMA}_{n}[k] = \alpha P[k] + (1-\alpha)\text{EMA}_{n}[k-1], \quad \alpha = \frac{2}{n+1}$$

הגדרה 5: ממוצע נע הול

20 יחידות זמן:

$$\text{HMA}_{20}[k] = \text{WMA}_{\sqrt{20}}\Big(2 \times \text{WMA}_{10}[k] - \text{WMA}_{20}[k]\Big)$$

n יחידות זמן:

$$\text{HMA}_{n}[k] = \text{WMA}_{\sqrt{n}}\Big(2 \times \text{WMA}_{\frac{n}{2}}[k] - \text{WMA}_{n}[k]\Big)$$

Def. 6: Hull Moving Average

20 time units:

$$\text{HMA}_{20}[k] = \text{WMA}_{\sqrt{20}}\Big(2 \times \text{WMA}_{10}[k] - \text{WMA}_{20}[k]\Big)$$

n time units:

$$\text{HMA}_{n}[k] = \text{WMA}_{\sqrt{n}}\Big(2 \times \text{WMA}_{\frac{n}{2}}[k] - \text{WMA}_{n}[k]\Big)$$

Def. 7: Highest high

20 time units:

$$\text{HH}_{20}[k] = \max\{\text{H}[k], \text{H}[k-1], \ldots, \text{H}[k-20+1]\} = \max \bigcup_{i=1}^{20} \text{H}[k-i+1]$$

n time units:

$$\text{HH}_{n}[k] = \max\{\text{H}[k], \text{H}[k-1], \ldots, \text{H}[k-n+1]\} = \max \bigcup_{i=1}^{n} \text{H}[k-i+1]$$

Def. 8: Lowest low

20 time units:

$$LL20[k] = \min\{\mathrm{L}[k], \mathrm{L}[k-1], \ldots, \mathrm{L}[k-20+1]\} = \min \bigcup_{i=1}^{20} \mathrm{L}[k-i+1]$$

n time units:

$$LLn[k] = \min\{\mathrm{L}[k], \mathrm{L}[k-1], \ldots, \mathrm{L}[k-n+1]\} = \min \bigcup_{i=1}^{n} \mathrm{L}[k-i+1]$$

Def. 9: Average Directional Index (ADX)

For 20 time units the initial ADX is defined

$$ADX_{20} = \frac{1}{20} \sum_{i=1}^{20} DX_i s$$

and the the smoothed ADX is defined

$$ADX_t = \frac{19 \cdot ADX_{t-1} + DX_t}{20} \ .$$

For n time units the initial ADX is defined

$$ADX_n = \frac{1}{n} \sum_{i=1}^{n} DX_i s$$

and the the smoothed ADX is defined

$$ADX_t = \frac{(n-1) \cdot ADX_{t-1} + DX_t}{n} \ .$$