1. Argmax(x,n) : **x** is the factor, **n** is lookback days;

Description:

Returns the relative index of the max value in the time series x for the past n days. If the current day has the max value for the past n days, it returns 0; if the previous day has the max value for the past n days, it returns 1; if the day before that has the max value for the past n days, it returns 2; and so on. If all values in the past n days are NAN, it returns NAN.

Eg: For rolling 5 day window: if number of data points < 5 (lookback), calculate the same for available data points as done in time series.

|  |  |  |  |
| --- | --- | --- | --- |
| **DATE** | **Factor** | **Ts\_Max** | **ArgMax** |
| 1/4/2006 | 0 | 0 | 0 |
| 1/5/2006 | 3 | 3 | 0 |
| 1/6/2006 | 3 | 3 | 0 |
| 1/9/2006 |  | 3 | 1 |
| 1/10/2006 | 1 | 3 | 2 |
| 1/12/2006 | 5 | 5 | 0 |
| 1/13/2006 | 10 | 10 | 0 |
| 1/16/2006 | 6 | 10 | 1 |
| 1/17/2006 |  | 10 | 2 |
| 1/18/2006 | 3 | 10 | 3 |
| 1/19/2006 | 3 | 10 | 4 |
| 1/20/2006 | 4 | 6 | 4 |
| 1/23/2006 | 8 | 8 | 0 |
| 1/24/2006 | 3 | 8 | 1 |

1. Argmin(x,n) : **x** is the factor, **n** is lookback days;

Description:

Returns the relative index of the min value in the time series x for the past n days. If the current day has the min value for the past n days, it returns 0; if the previous day has the min value for the past n days, it returns 1; if the day before that has the min value for the past n days, it returns 2; and so on. If all values in the past n days are NAN, it returns NAN.

Eg: For rolling 5 day window: if number of data points < 5 (lookback), calculate the same for available data points as done in time series.

|  |  |  |  |
| --- | --- | --- | --- |
| **DATE** | **Factor** | **Ts\_Min** | **ArgMin** |
| 1/4/2006 | 0 | 0 | 0 |
| 1/5/2006 | 3 | 0 | 1 |
| 1/6/2006 | 3 | 0 | 2 |
| 1/9/2006 | 5 | 0 | 3 |
| 1/10/2006 |  | 0 | 4 |
| 1/12/2006 | 5 | 3 | 3 |
| 1/13/2006 | 10 | 3 | 4 |
| 1/16/2006 | 6 | 5 | 2 |
| 1/17/2006 | 6 | 5 | 3 |
| 1/18/2006 | 3 | 3 | 0 |
| 1/19/2006 | 3 | 3 | 0 |
| 1/20/2006 | 4 | 3 | 1 |
| 1/23/2006 | 8 | 3 | 2 |
| 1/24/2006 | 3 | 3 | 0 |