TRADE PERFORMANCE METRICS

Summary

The current code calculates five user-selectable trade performance metrics:

- pct_wins: number of winning trades (i.e., profitable) as percentage of total trades
- pct_losses : number of losing trades (i.e., loss-making) as percentage of total trades
- r_wl_cnt: ratio of counts of winning to losing trades
- r_wl_totval: ratio of total winning trade profits to losing trade losses
- r_wl_avgval: ratio of average winning trade profits to losing trade losses

Individual functions are provided for each metric.

Code Testing

To simplify testing, the metric names and associated functions are assembled into a dictionary. This approach may/may not be appropriate for the final package, in which the single metric function will be replaced by the five above. Further a helper function, *tst_code*, is available to test all five metrics functions in a single call.

To save time, the repo includes data for independent testing. Thus, it is not necessary to employ the entire application, which runs multiple trials and tests.

- *perf_results.csv*: A csv file that substitutes for actions data generated and passed in main app and is read into a dataframe
- *TPM_hist*: values calculated for previous trials. See discussion below

Ratio Metrics Calculation

Each of the three "ratio" metrics, *r_wl_cnt*, *r_wl_totval*, and *r_wl_avgval*, are quotients of values associated with winning and losing trades. In rare cases, a trial or test may yield no losing trades, resulting in a division by zero, which requires other methods for setting the metric value.

In this code, the primary method is extrapolation from the previously recorded metric values in *tpm_hist*, specifically the product of the maximum value and *tpm_mult*. If there are no previously recorded values, a fixed value is assigned.

Currently, *tpm_mult* is set at 1, and the fixed metric values should be seen as placeholders, awaiting further analysis. Perhaps one or both of these values should be user-settable.

Common Data

The performance data includes seven attributes (or columns):

- #_trades
- #_wins
- #_losses
- wins_total_value
- wins_avg_value
- losses_total_value
- losses_avg_value

As the code shows, many of these attributes are used in multiple functions, and all are summed before doing so. It may be useful to calculate sums and assign to variables prior to function calls.