RED COLORED LINES ARE REQUIRED TABLES/GRAPHS

the attached code "Graphs1 (2) (1) (1).py" will generate the combined"financial\_perf.html" based on the 3 temp\_.html files.

This "Graphs1 (2) (1) (1).py" needs to improve .

The input is the 3 strategies and 2 benchmarks in the excel file.

Each strategy/ benchmarks has these columns:

name date ticker weight return\_1m\_rank return\_next\_1m return\_1m yyyymm episode measure1 measure2 measure3 sector1\_exp sector2\_exp sector20\_exp country1\_exp country2\_exp country20\_exp

The output of your code is similar to the "combined\_financial\_performance\_report.html" but need to improve.

1) the monthly heatmap in the file have different color scale, all stocks should have same green to red scale, but aapl in the file has more red colors

2) "AAPL EOY Returns" have overlap years displayed

3) GOOG Worst 5 Drawdown Periods is wrong, we generate separate files and the two "GOOG Worst 5 Drawdown Periods" does not match

4) missing Daily Active Returns for two stocks

5) the input dataframe needs to have a "episode" column in it (eg, set episode =1 for 200712-200903, and 202002-202003; set episode =0 for other months) , and need to highlight such "episodes" in the "cumulative return" and "combined drawdown" graphs . If the "episode" is missing, then do not show any highlight

6) the "KeyPerformance Metrics" need to combine three stocks and put into one table

7) the code needs to differentiate the input dataframe with daily return or monthly return

Summary stats

**1 table , 5 columns: 3 strategy + 2 benchmark**

**Based on “return\_next\_1m” variable**

A screenshot of a computer

Description automatically generated

**section1: RETURN related tables/graphs**

Summary stats by episodes

if “episodes” column is set, create a table with these columns :

**(1 table , 5 columns: 3 strategy + 2 benchmark)**

**Based on “return\_next\_1m” variable**

| Episode |  | Strat1 | Strat2 | Strat3 | Bmk1 | Bmk2 |
| --- | --- | --- | --- | --- | --- | --- |
| All\_dates | Count |  |  |  |  |  |
|  | Avg return |  |  |  |  |  |
|  | Standard Deivation |  |  |  |  |  |
| LowVol | Count |  |  |  |  |  |
|  | Avg return |  |  |  |  |  |
|  | Standard Deivation |  |  |  |  |  |
| HighVol | Count |  |  |  |  |  |
|  | Avg return |  |  |  |  |  |
|  | Standard Deivation |  |  |  |  |  |

Excess return summary stats

**(2 tables, one for each benchmark**

**Based on “return\_next\_1m” variable**

A screenshot of a computer

Description automatically generated

Excess return stats by episodes

if “episodes” column is set, create a table with these columns :

**(2 tables, one for each benchmark**

**Based on “return\_next\_1m” variable**

| Episode |  | Strat1 | Strat2 | Strat3 | Bmk1 | Bmk2 |
| --- | --- | --- | --- | --- | --- | --- |
| All\_dates | Count |  |  |  |  |  |
|  | Avg return |  |  |  |  |  |
|  | Standard Deivation |  |  |  |  |  |
| LowVol | Count |  |  |  |  |  |
|  | Avg return |  |  |  |  |  |
|  | Standard Deivation |  |  |  |  |  |
| HighVol | Count |  |  |  |  |  |
|  | Avg return |  |  |  |  |  |
|  | Standard Deivation |  |  |  |  |  |

**(1 table , 5 columns: 3 strategy + 2 benchmark)**

Cumulative returns

, Need to add episode shades, if episodes column is set

**Based on “return\_next\_1m” variable**

A graph with lines and numbers

Description automatically generated with medium confidence

**(1 table , 5 columns: 3 strategy + 2 benchmark)**

Cumulative excess returns

, Need to add episode shades, if episodes column is set

**Based on “return\_next\_1m” variable**

A graph with lines and numbers

Description automatically generated with medium confidence

**(1 table , 5 columns: 3 strategy + 2 benchmark)**

Drawdown

graphs, Need to add episode shades:

**Based on “return\_next\_1m” variable**

A graph of different colored lines

Description automatically generated

Calendar year return and volatility

**(1 table , 5 rows: 3 strategy + 2 benchmark)**

**Based on “return\_next\_1m” variable**

A screenshot of a graph

Description automatically generated

**5 tables: 5 rows: 3 strategy + 2 benchmark**

**Based on “return\_next\_1m” variable**

**Monthly return heatmap**

Need to make sure the color scale is the same across strategies, eg, AAPl and MSFT have same red-to-green scale

A screenshot of a chart

Description automatically generated

A screenshot of a computer

Description automatically generated

Need to combine all strateiges in this one graph

**Annual returns**

**1 graph: 5 columns (3 strategy + 2 bmk)**

**Based on “return\_next\_1m” variable**

A graph with blue bars

Description automatically generated

**Drawdown**

**, 5 graph (3 strategy + 2 bmk)**

**Based on “return\_next\_1m” variable**

Need to make sure the drawdown periods matches those in the individual files produced by QuantStats

A screenshot of a graph

Description automatically generated

**1 graph, 5 curves**

Underwater plots

Need to show the 1 graphs with data from all 3 strategies

Need to show episode shades

**Based on “return\_next\_1m” variable**

A graph with numbers and lines

Description automatically generated

**5 tables (3 strate + 2 bmks)**

Drawdown recovery days

From QS code

Need to combine all strategies into one table

**Based on “return\_next\_1m” variable**

A table with numbers and letters

Description automatically generated

**section2: holdings related tables/graphs**

**1 graph, 3 cuvers for 3 strategies**

**Number of holdings**

**Based on “ticker” variable**

From the holdings table, show 3 graphs, one for each strategy:

A graph with lines and numbers

Description automatically generated

Holdings by date

, show 3 graphs, one for each strategy:

From the holdings table, **Based on “ticker” and “weight” variable**

**Show the graph for the most recent 10 periods**

A graph of blue and purple squares

Description automatically generated

Turnover by date

, for all strategies

**1 graph, 3 strategies**

**turnover = sum(absolute value (ticker\_weight (t, i) – ticker\_ weight (t-1, i)) ) /2**

**Based on “ticker” and “weight” variable :**

A line graph with numbers

Description automatically generated

Annual turnover

, 1 graph,for all strategies

**Based on “ticker” and “weight” variable :**

**For each year, Add up turnover = sum(absolute value (ticker\_weight (t, i) – ticker\_ weight (t-1, i)) ) /2**

A graph with blue lines

Description automatically generated with medium confidence

1 table for 3 strategies + 2 benchmarks

Sector exposures

**section3: exposures on sector/country/measures related tables/graphs**

Based on the excel, fields with key words “sector\_exp” in it.

Eg, exp\_sector1, exp\_sector2 exp\_sector3 Sector name is sector1, sector2, sector3, etc

A screenshot of a graph

Description automatically generated

Loop through 5 graph, for 3 strategies + 2 benchmark

Sector exposures

A colorful graph with numbers

Description automatically generated with medium confidence

Loop through 6 graph, for 3 strategies , each relative to 2 benchmark

Sector exposures relative to benchmarks

A colorful sound wave

Description automatically generated with medium confidence

1 table for 3 strategies + 2 benchmarks

Country exposures

Based on the excel, fields with key words “country\_exp” in it.

Eg, exp\_country1, exp\_country2 exp\_country3 Country name is country1, country2, country3, etc

A screenshot of a graph

Description automatically generated

Loop through 5 graph, for 3 strategies + 2 benchmark

Country exposures

A blue screen with colorful lines

Description automatically generated with medium confidence

Loop through 6 graph, for 3 strategies , each relative to 2 benchmark

Country exposures relative to benchmarks

A colorful city skyline with black text

Description automatically generated with medium confidence

Loop through 3 measures (measure1, measure2, measure3) , for 3 strategies + 2 benchmark

Loop through 3 measures

3 graphs

Measure1 exposures (show 5 curves)

A graph of a line

Description automatically generated with medium confidence

Loop through benchmarks

Relative measure1 exposures (relative to benchmark1)

Relative measure1 exposures (relative to benchmark2)

