To do list:

1. Price SMA/EMA Graphs (10/100) and (30/100)
2. Ratio SMA/EMA Graphs (10/100) and (30/100)
3. Cumulative plot 4 stocks portfolio growth
4. Cumulative percentage returns

Files read in/produced

1. df\_prep\_price\_indicators.ipynb
   1. read in:
      1. fundamentals.csv
   2. written to Resources/:
      1. df\_final.csv
      2. googl\_df.csv
      3. nvda\_df.csv
      4. mmm\_df.csv
      5. pg\_df.csv
2. df\_prep\_ratio\_indicators.ipynb
   1. read in:
      1. googl\_df.csv
      2. nvda\_df.csv
      3. mmm\_df.csv
      4. pg\_df.csv
   2. written to Resources/:
      1. googl\_ratio\_indicators.csv
      2. nvda\_ratio\_indicators.csv
      3. mmm\_ratio\_indicators.csv
      4. pg\_ratio\_indicators.csv
3. benchmarks\_price.ipynb
   1. read in:
      1. googl\_df.csv
      2. nvda\_df.csv
      3. mmm\_df.csv
      4. pg\_df.csv
   2. written to Resources/:
      1. googl\_ratio\_indicators.csv
      2. nvda\_ratio\_indicators.csv
      3. mmm\_ratio\_indicators.csv
      4. pg\_ratio\_indicators.csv
4. benchmarks\_ratios.ipynb
   1. read in:
      1. googl\_ratio\_indicators.csv
      2. nvda\_ratio\_indicators.csv
      3. mmm\_ratio\_indicators.csv
      4. pg\_ratio\_indicators.csv
   2. written to Resources/:
      1. googl\_signals.csv
      2. nvda\_signals.csv
      3. mmm\_signals.csv
      4. pg\_signals.csv

googl\_df.csv,

nvda\_df.csv,

mmm\_df.csv,

pg\_df.csv

generated by notebook df\_prep\_price\_indicators.ipynb

# Column Non-Null Count Dtype

--- ------ -------------- -----

0 GOOGL Adj. Close 1320 non-null float64

1 GOOGL P/S (LTM) 1320 non-null object

2 GOOGL P/FCF (LTM) 1320 non-null object

3 GOOGL P/E (LTM) 1320 non-null object

4 GOOGL Debt/Equity (LTM) 15 non-null float64

5 actual\_returns 1319 non-null float64

6 sma\_fast 1311 non-null float64

7 sma\_fast30 1291 non-null float64

8 sma\_slow 1221 non-null float64

9 ema\_fast 1320 non-null float64

10 ema\_fast30 1320 non-null float64

11 ema\_slow 1320 non-null float64

googl\_ratio\_indicators.csv,

nvda\_ratio\_indicators.csv,

mmm\_ratio\_indicators.csv,

pg\_ratio\_indicators.csv

generated by notebook df\_prep\_ratio\_indicators.ipynb

# Column Non-Null Count Dtype

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5 actual\_returns 1319 non-null float64

6 ps\_sma\_fast 1311 non-null float64

7 ps\_sma\_fast30 1291 non-null float64

8 ps\_sma\_slow 1221 non-null float64

9 ps\_ema\_fast 1320 non-null float64

10 ps\_ema\_fast30 1320 non-null float64

11 ps\_ema\_slow 1320 non-null float64

12 pfcf\_sma\_fast 1311 non-null float64

13 pfcf\_sma\_fast30 1291 non-null float64

14 pfcf\_sma\_slow 1221 non-null float64

15 pfcf\_ema\_fast 1320 non-null float64

16 pfcf\_ema\_fast30 1320 non-null float64

17 pfcf\_ema\_slow 1320 non-null float64

18 pe\_sma\_fast 1311 non-null float64

19 pe\_sma\_fast30 1291 non-null float64

20 pe\_sma\_slow 1221 non-null float64

21 pe\_ema\_fast 1320 non-null float64

22 pe\_ema\_fast30 1320 non-null float64

23 pe\_ema\_slow 1320 non-null float64