

**create tree and workflow for programmer**

Below is a clear **workflow tree** and **code workflow** for your programmer to organize, process, and visualize your market analytics pipeline using the provided scripts and CSV files [[script.py](http://script.py)][script\_1.py][script\_2.py][script\_3.py][script\_4.py][script\_5.py][script\_6.py][script\_7.py].

**Workflow Tree**

1. Data Ingestion  
 ├─ Load main calculation CSVs:  
 │ • basic\_calculation\_daily\_0\_20250829.csv  
 │ • basic\_calculation\_weekly\_0\_20250825.csv  
 │ • basic\_calculation\_monthly\_0\_20250829.csv  
 ├─ Load supporting analytics:  
 │ • rs\_ibd\_stocks\_daily\_0\_20250829.csv  
 │ • stage\_analysis\_daily\_0\_20250829.csv  
  
2. Data Exploration & Cleaning  
 ├─ View data structure/columns and sample rows  
 ├─ Validate ticker alignment across files  
 ├─ Confirm shape and missing data  
  
3. Analysis & Feature Engineering  
 ├─ Top/bottom performers selection (by yearly/monthly/weekly return)  
 ├─ Sector membership/segmentation (e.g., SP500InformationTechnology)  
 ├─ Stage analysis (trend, distribution of stage categories)  
 ├─ RSI category and distribution  
 ├─ Relative Strength percentile extraction and ranking  
 ├─ Risk/volatility metrics (ATR, etc.)  
 ├─ Prepare time-series statistics (multi-period performance lines)  
  
4. Data Aggregation  
 ├─ Summarize key stats (market, stage, RSI, sector, risk)  
 ├─ Compile comparison tables for visualizations  
 ├─ Save processed/selected data to .csv  
  
5. Output and Visualization Readiness  
 ├─ Write summary tables (e.g., processed\_market\_analysis.csv)  
 ├─ Prepare final datasets for chart scripts (scatter, bar, line, etc.)  
 └─ Document summary stats and analytics output  
  
6. Chart & Report Integration (Optional)  
 ├─ Import saved .csv into visualization scripts (Matplotlib, Plotly, etc.)  
 ├─ Create charts: sector perf, risk-return, RSI, time-series trends  
 └─ Publish/report results as needed

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**Step-by-Step Annotated Code Workflow**

**1. Data Loading**

* Load all relevant CSV files using pandas.
  + Daily: basic\_calculation\_daily\_0\_20250829.csv
  + Weekly: basic\_calculation\_weekly\_0\_20250825.csv
  + Monthly: basic\_calculation\_monthly\_0\_20250829.csv
  + RS: rs\_ibd\_stocks\_daily\_0\_20250829.csv
  + Stage: stage\_analysis\_daily\_0\_20250829.csv
* Print data shapes, columns, and preview rows.

**2. Exploration & Validation**

* Display sample rows, column lists for orientation.
* Check for expected tickers and consistency among files.

**3. Analytics Preparation**

* Select top N stocks for each time period using nlargest() and nsmallest().
* Analyze sector affiliation using index flags (e.g., SP500InformationTechnology).
* Compute summary statistics (mean, median, count, etc.).
* Categorize RSI values and stages; produce value counts/distributions.

**4. Relative Strength & Technical Analysis**

* Extract top RS (relative strength percentile) performers per time period.
* Build scatter plot-ready tables (Price vs RSI, etc.).
* Analyze risk/return using ATR and performance columns.

**5. Aggregation & Output**

* Summarize important counts and metrics (bullish stocks, avg returns, etc.).
* Save processed or selection datasets for next stages.
  + Example: processed\_market\_analysis.csv, sector performance arrays, RSI chart data.

**6. Chart & Visualization Prep**

* Prepare the data format for visualization (scatter, bar, multi-line).
* Document ready-to-use .csv and chart data structures for further scripts.

**Data, Analysis, and Chart Integration Diagram**

Raw CSV Files ──► DataFrames (pandas)  
 │  
 Exploration/Validation  
 │  
 Analytics & Feature Engineering  
 │  
 Aggregation/Summarization  
 │  
 Prepared CSVs & Analysis Tables (.csv)  
 │  
 Chart Scripts / Dashboards  
 │  
 Visualization, Results, Reporting

[script\_2.py][script\_3.py][script\_4.py][script\_5.py][script\_6.py][script\_7.py]

**Documentation for Programmer**

* **Scripts are modular:** Each focuses on one analytic/visual step.
* **Intermediate outputs** should be saved as .csv and leveraged by visualization scripts.
* **Can expand analytic periods/sectors by updating lists and columns as needed.**
* **Charts can be added using exported CSVs for clean separation.**

This structured tree and workflow lets any programmer efficiently run, maintain, expand, and visualize your market analytics process [[script.py](http://script.py)][script\_1.py][script\_2.py][script\_3.py][script\_4.py][script\_5.py][script\_6.py][script\_7.py].

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1. [script.py](http://script.py)

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1. script\_2.py

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1. script\_6.py