**✅ CURRENT FOCUS: Python 4-Week Refresher Plan**

This was part of your **Project Compass: Master Execution Plan (MEP)** and is a key pillar for your data science and machine learning prep.

Here is the **full 4-week Python Refresher Plan**, cleanly organized:

**🔁 WEEK 1: Python Basics & Data Handling**

| **Day** | **Topics** | **Tools** | **Deliverables** |
| --- | --- | --- | --- |
| 1 | Python syntax, variables, data types | Jupyter/VS Code | Small notebook: variable manipulation |
| 2 | Conditionals, loops | for, while, if/else | Flowchart + mini practice problems |
| 3 | Lists, tuples, sets, dictionaries | Built-ins | Practice Qs + nested loop challenge |
| 4 | Functions, scope, arguments | def, return | Build a calculator |
| 5 | File I/O | open(), .read(), .write() | File parser: Read a .txt and extract words |
| 6 | Practice project: Mini CLI Tool | Combines all | Script for text cleaner/searcher |
| 7 | Rest or Review | — | Skim Week 1 notes, Quiz yourself |

**🧠 WEEK 2: Numpy + Pandas Essentials**

| **Day** | **Topics** | **Tools** | **Deliverables** |
| --- | --- | --- | --- |
| 8 | numpy arrays, shape, dtype | NumPy | Vector math + reshaping drills |
| 9 | Indexing, slicing, broadcasting | NumPy | Matrix operations worksheet |
| 10 | pandas Series, DataFrames | Pandas | Load and explore a .csv |
| 11 | Data selection & filtering | .loc[], .iloc[] | Filter NBA stats dataset |
| 12 | Data cleaning | .dropna(), .fillna() | Clean a messy dataset |
| 13 | Practice project: Data Cleaner | Pandas/Numpy | Clean, sort, filter → export clean CSV |
| 14 | Rest or Review | — | Build a 1-page cheat sheet |

**📊 WEEK 3: Visualization + Analysis**

| **Day** | **Topics** | **Tools** | **Deliverables** |
| --- | --- | --- | --- |
| 15 | matplotlib basics | plt.plot, plt.show() | Line + bar charts |
| 16 | Scatterplots, histograms, subplots | plt.scatter, plt.hist | Visualize NBA performance |
| 17 | seaborn intro | sns.barplot, sns.heatmap | Correlation heatmap |
| 18 | Advanced plotting | Annotations, styles | Styled multiplot layout |
| 19 | EDA (Exploratory Data Analysis) | Combo tools | Analyze trends in player stats |
| 20 | Mini Project: Player Report Card | Pandas + Matplotlib | PDF of visualized player analysis |
| 21 | Rest or Review | — | Short self-eval: what you understand vs need to review |

**🧩 WEEK 4: Real-World Projects + Stretch Topics**

| **Day** | **Topics** | **Tools** | **Deliverables** |
| --- | --- | --- | --- |
| 22 | Python + CSV automation | Loops + pandas | Auto-categorize sports data |
| 23 | JSON, APIs (intro) | requests, .json() | Pull API data from a public dataset |
| 24 | Functions + Refactor review | Python | Modularize your code from past days |
| 25 | Class intro (OOP basics) | class, \_\_init\_\_ | Define a Player class |
| 26 | Final Project Planning | You decide | Define a fun stretch project idea |
| 27–28 | Final Project Execution | All tools | Deliver a working script/report that solves a real task you care about (e.g., sports analysis, study automation, etc.) |