Final Project Timeline & Work Plan

# Week 1 (Current Week) – Infrastructure Setup & Initial Inserts

Objective: Establish core functionality and begin populating Snowflake with test data.:

* Connect to Snowflake and confirm successful insert using a single-row test for each table (e.g., portfolio, holdings, benchmark)
* Begin developing modular Python scripts for extract, transform, and load steps
* Submit each team member's individual code and accompanying documentation or thought notes in plain text
* Start simulating basic holding data (e.g., a mix of stock and bond tickers with prices)

# Week 2 – Performance Factor Calculation & Benchmark Data

Objective: Calculate time-series returns and build foundational benchmark data.

* Finalize and test geometric chaining logic for performance factor calculations
* Upload full benchmark price history to Snowflake (e.g., SPY for equity, AGG or BND for bonds)
* Match benchmark metadata to relevant holdings via product mapping
* Simulate performance for stock and bond holdings over multiple periods
* Begin writing documentation on benchmark selection logic and its relevance to portfolio evaluation

# Week 3 – Portfolio Performance & Pipeline Orchestration

Objective: Automate return aggregation at the portfolio level and build an end-to-end run sequence.

* Aggregate individual performance factors to calculate full portfolio-level performance
* Populate the portfolio\_performance table using daily performance factor inputs
* Finalize the product\_master and ensure all securities are classified correctly by asset class, vehicle type, and benchmark eligibility
* Build a single orchestrator script (e.g., pipeline.py) that executes all data steps from input to Snowflake insertion
* Perform internal testing to validate joins, shapes, and accuracy using Snowflake SQL queries

# Week 4 – Finalization & Reporting

Objective: Complete all technical components, prepare documentation, and finalize the project for submission.

* Finalize all Snowflake table inserts and ensure full coverage of the dataset across portfolios, holdings, performance, and benchmarks
* Test pipeline end-to-end using a clean execution sequence and confirm correctness through Snowflake queries
* Submit a written report summarizing the purpose and structure of each major table in the database, explaining how they support the construction and evaluation of target date funds
* Document known issues and limitations with the Snowflake Table for the Multi-Asset category