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| **FinTech Unit 5 Homework: Grading Rubric** | | | | |
| **Criteria** | **Ratings** | | | |
| Budget Analysis  • Generate a Plaid access token to access the Developer Sandbox.  • 90 days account transactions fetch from the sandbox using Access Token.  • Basic budget analysis on the sandbox transaction and plot generated.  • Fetch Income data using the API: Print Last Year's income before Tax, Current Monthly Income and Projected Income Before Tax. | **20 Points Mastery**   * Completed 4 out of 4 requirements * Code runs without error and produces the assigned results * Code accounts for all possible scenario * Code is free of bugs | **19 > 16 Points Approaching Mastery**   * Completed 3 out of 4 of requirements * Code runs without error * Code produces results as expected 80% of the time | **16 > 14 Points Progressing**   * Completed 2 out of 4 requirements * Code runs without error * Code produces results, but not necessarily the correct results | **14 > 0 Emerging**   * Completed 1 or none out of the 4 requirements * No submission * Code runs with error |
| Retirement Planner  • Monte Carlo Simulation created for the retirement portfolio.  • Historical data Fetch from Alpaca API for a traditional 60/40 Portfolio using SPY and AGG with appropriate tickers.  • 500 Runs Monte Carlo Simulation and 30-year simulation for 60/40 portfolio.  • 90% confidence interval calculated  • Histogram of the results and 90% confidence interval plotted as vertical lines on the histogram. | **20 Points Mastery**   * Completed 5 out of 5 requirements * Code runs without error and produces the assigned results * Code accounts for all possible scenario * Code is free of bugs | **19 > 16 Points Approaching Mastery**   * Completed 3 out of 5 of requirements * Code runs without error * Code produces results as expected 80% of the time | **16 > 14 Points Progressing**   * Completed 2 out of 5 requirements * Code runs without error * Code produces results, but not necessarily the correct results | **14 > 0 Emerging**   * Completed 1 or none out of the 5 requirements * No submission * Code runs with error |
| Retirement Analysis  • Cumulative returns at 30 years for the 10th, 50th, and 90th percentiles  • Expected return in dollars at the 10th, 50th, and 90th percentiles for a 20k Investment.  • Plaid Analysis with a 4% withdrawal rate.  • 50% increase analysis on initial investment on 4% retirement withdrawal. | **15 Points Mastery**   * Completed 4 out of 4 requirements * Code runs without error and produces the assigned results * Code accounts for all possible scenario * Code is free of bugs | **14 > 11 Points Approaching Mastery**   * Completed 3 out of 4 of requirements * Code runs without error * Code produces results as expected 80% of the time | **11 > 9 Points Progressing**   * Completed 2 out of 4 requirements * Code runs without error * Code produces results, but not necessarily the correct results | **9 > 0 Emerging**   * Completed 1 or none out of the 4 requirements * No submission * Code runs with error |
| Financial Report  • Budget Analysis, transaction data summarize charts and tables produced.  • Retirement portfolio analyzed, charts from monte carlo simulation included. | **15 Points Mastery**   * Completed 2 out of 2 requirements * Code runs without error and produces the assigned results * Code accounts for all possible scenario * Code is free of bugs | **14 > 11 Points Approaching Mastery**   * Completed 1 out of 2 of requirements * Code runs without error * Code produces results as expected 80% of the time | **11 > 9 Points Progressing**   * Completed fewer than 1 out of 2 requirements * Code runs without error * Code produces results, but not necessarily the correct results | **9 > 0 Emerging**   * Completed 0 out of 2 requirements * No submission * Code runs with error |
| **Coding Conventions/Formatting**  • Appropriate header, name, short description at top of the notebook  • Imports are at the top of the file, just after any headers or subheads.  • Files read in from relative file path  • Functions and variable names are descriptive, lowercase, with words separated by underscores  • Clean code, no repetition, maintainable and highly reusable code.  • Appropriate code wrapping and cell sizes  • Appropriate subheads as needed | **10 Points Mastery** | **8 Points - Approaching Mastery** | **5 Points - Progressing** | **0 Points - Emerging** |
| **Deployment/Submission**  • Files submitted in personal repo • Appropriate directory structure with correct files needed to run scripts  • Appropriate commit messages  • Appropriate README | **10 Points Mastery** | **8 Points - Approaching Mastery** | **5 Points - Progressing** | **0 Points - Emerging** |
| **Documentation/Comments**  • Code is well commented with concise, relevant comments | **10 Points Mastery** | **8 Points - Approaching Mastery** | **5 Points - Progressing** | **0 Points - Emerging** |
| **Optional Challenge — Early Retirement**  • Portfolio adjusted for early retirement - Analysis of high stock vs bond ratio/ Initial Investment | **10 Points Mastery**   * Completed 100% of requirements * Code runs without error and produces the assigned results * Code accounts for all possible scenario * Code is free of bugs | **8 Points - Approaching Mastery**   * Completed ≥80% of requirements * Code runs without error * Code produces results as expected 80% of the time | **5 Points - Progressing**   * Completed ≥ 70% of requirements * Code runs without error * Code produces results, but not necessarily the correct results | **0 Points - Emerging**   * Completed ≤ 70% of requirements * No submission * Code does not run without error |