**Welcome!**This project simulates the Boston Celtics' playoff performance using advanced NBA statistics and a performance-based simulation model. It blends exploratory data analysis, statistical modeling, and simulation to provide a compelling look at how the Celtics could fare in a postseason matchup.

**Course Origin**Originally developed as the final project for ISYE 6644: Simulation, an operations research elective in Georgia Tech’s Online Master of Science in Analytics (OMSA) program. The project meets course learning objectives and has since been refined as a portfolio piece.

**Getting Started** To explore or reproduce this project:

1. Start by reviewing the **Project Overview** document.
2. Open the notebooks in the **Code & Notebooks** folder to see how the performance equation and simulation engine were built.
3. Reference the **Data Files** folder to view the 2023–24 advanced box scores used in the analysis.
4. Check out the **Visuals & Reports** folder to quickly view key outputs, simulation results, and final conclusions.

**What You'll Find**

* A performance model that captures the statistical strengths of each team.
* A simulation engine that estimates series outcomes under probabilistic scenarios.
* Clean visuals and thoughtful analysis that translate numbers into basketball insights.

**File Guide**

* Celtics Playoff Simulation V2.Rmd: Builds and runs the playoff simulation.
* NBA-2023-24-Season-Exploratory-Analysis.Rmd: Investigates trends in regular season performance across five NBA teams.
* Final Report.Rmd: Summarizes the project’s results with visuals and conclusions.
* CSV data files in **Data Files**: Advanced metrics pulled from trusted NBA stat sources.
* Graphs and outputs in **Visuals & Reports**.

**Who This Is For** This project is for fans of basketball, aspiring sports analysts, and data scientists interested in applying simulation and modeling to real-world performance data. It’s also a portfolio piece meant to demonstrate how statistical thinking can be used to model high-stakes scenarios like NBA playoff series.

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GitHub: [github.com/maekala](https://github.com/maekala)Questions or feedback? I’d love to hear from you!