

ACC Basketball Homework Assignment

Objective:

You will analyze total player statistics from the 2023-2024 ACC basketball season using pandas DataFrames and a CSV File.

Dataset:

The dataset contains total statistics for ACC basketball players for the 2023-2024 season.

Assignment Tasks:

1. Reading the CSV File:

- Load the provided CSV file into a pandas DataFrame.
- Display the first 5 rows of the DataFrame to understand the structure of the data.

2. Basic Analysis:

- Calculate the total points scored by all players combined.
- Find the player who has played the most minutes (MP).
- Identify the top 5 players in terms of total rebounds (TRB).

3. Player Filtering:

- Create a new DataFrame containing only players who played more than 500 minutes.
- From this filtered DataFrame, determine the player with the highest total assists (AST).
- Who are the top 3 Assist Leads in the League?
- Who are the top 3 Shot Blockers?

4. School-Based Analysis:

- Group the players by School and calculate the total points scored by each school.
- Group the players by School and calculate the total assists (AST) for each team.
- Sort the schools by total points scored and display the top 3 schools.

5. Extra Credit (Bonus):

- Create a bar chart showing the top 5 players by total points scored (PTS).
- Correlation: Investigate whether there is any correlation between a player's field goal percentage (FG%) and their win shares (WS). Provide a scatter plot and calculate the correlation coefficient.

Submission:

- Python code file (.py or .ipynb) to GitHub...submit the link
- 3 Paragraph Reflection

What did you learn about working with CSV files and pandas DataFrames in this assignment?

- Reflect on the specific skills or techniques you developed, such as reading, filtering, or manipulating data, and how these skills can be applied to future data analysis projects.

What was the most challenging aspect of this assignment, and how did you overcome it?

- Explain the difficulties you encountered, whether it was related to coding, understanding the data, or performing specific analyses, and describe the strategies you used to work through the challenges.

How do you think the insights gained from analyzing ACC basketball statistics could be applied to other real-world datasets?

- Consider the broader implications of using data analysis techniques on different datasets, whether in sports, business, healthcare, or other fields, and discuss how this experience prepares you for future data science challenges.

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