Overview

Using open sourced programming language(s) of your choice, answer the assessment questions to the best of your ability. Please spend no more than ***five hours working on this assessment***. It is not necessary that you answer all the questions completely, rather, this is meant for you to showcase your programming proficiency and analytical acumen. Make sure to double check your work and follow all the submission instructions.

Data Source

Your data source for this assessment will be https://www.kaggle.com/datasets/mattop/nba-draft-basketball-player-data-19892021. This link has 33 seasons of publicly available NBA draft data.

Assessment

Your target audience for the below questions is the Vice President of Basketball Strategy & Analytics. Your submission should be formatted in a PDF report no longer than two pages (minimum size 11pt font).

Data: Load the 1989-2021 draft dataset into your environment.

Part 1: Data Comprehension (estimated time: 1.5 hours)

(A) Which NBA team(s) has drafted the most players who…

a. went to Duke and were drafted in or before the 2000 draft?

b. have a first name that begins with D and were drafted in an even year draft (1990, 1992, 1994, …)?

(B) Describe the relationship between a team's first round pick slot in one year with their first-round pick slot in the subsequent year.

Part 2: Analytical Acumen (estimated time: 3.5 hours)

Use your own judgement, interpretation and assumptions when responding to any of the open-ended questions. Specify any assumptions you make, where applicable.

(A) Prompt: Analyze draft position value and team success/deficiencies compared to expectation.

a. Create a method for valuing each draft slot in the NBA Draft (picks 1 through 60 in most drafts).

b. Conditional on the expected value of the draft positions, which **NBA teams** have over or underperformed the most when drafting during this time span. Which **College Teams** have had the players outperform expectations the most after entering the NBA?

c. Explain and present your findings with tables and visuals. What additional research areas would you focus on if given the opportunity to expand this study?

Submission Instructions

Once you are prepared to submit your assessment, please create a shareable repository on GitHub, GitLab, Bitbucket, or an equivalent service to share your final report and your source code. Your project repository should include the following items:

1. The final report, submitted as a PDF.
    a. This output should be no longer than two pages.
    b. Minimum font size is 11pt.
    c. Written explanations, tables, and charts in response to the assessment questions should be included in this output. *Do not include your code in this document*.
2. All code written to complete this assessment. Example file types to include are: [".R", ".RMD", ".ipynb", ".py", ".jl", ".txt"]
    a. In your code script(s), please include a commented list of any resources you used to complete this assessment at the end of each script. For instance, Stackoverflow links should be included in your list of resources.
    b. You are encouraged to write clean, easy to read code with clear instructions on how to run the script(s).
    c. Your code will be reviewed. Your application will not be considered without including the code you wrote to complete this assessment.
3. Your updated resume.

You are free to organize your repository however you like. You can use the repository ReadMe to explain the structure of your repository.

Submission Deadline: June 4th, 2023 by 11:59 PM ET.

Submission Link: https://forms.office.com/r/Qp4FXatBtw

Anything submitted after this deadline will not be reviewed.