Technical Skills Assignment

Background

The Dodd-Frank Act Stress Test (DFAST) program annually publishes the Supervisory Stress Test Methodology Disclosure, a disclosure offering more detailed descriptions of supervisory models used in the stress test over the descriptions available in the official stress test disclosure.

Programming

A feature of the methodology disclosure is that four models are used to provide additional quantitative results. In this exercise, a portfolio of hypothetical loans resembling the regulatory data used in the official stress test is summarized and loss rates are modeled.

Use R (**preferred**) or Python to replicate the summary statistics of selected variables in the portfolios of hypothetical credit card accounts, Table 37. You may use any packages or methods necessary to complete this task. The portfolio data are located here:

- https://www.federalreserve.gov/supervisionreg/files/cards-low-risk-2023.csv
- https://www.federalreserve.gov/supervisionreg/files/cards-typical-risk-2023.csv
- https://www.federalreserve.gov/supervisionreg/files/cards-high-risk-2023.csv

Deliverables

- The R (or Python) code you wrote to replicate the summary statistics
    - If in R: provide code as a Rmarkdown (.RMD) or R script (.R) file.
    - If in Python: provide your Python script (.py) as a ZIPPED file. DO NOT send Python notebooks (.ipynb) or Python scripts with .py extensions as these cannot be sent in through our firewall.
- The output of your code – provide output as a PDF, Word, or HTML file

Level of Effort

Spend a maximum of **four** hours on this assignment. There is no line limit on the code – strive for a balance of conciseness and clarity and include any coding best practices you view as important.