D598 Task 2 Report

A. Python Program

The Python program developed for Task 2 successfully performs all required data analysis as outlined in Task 1. The program begins by importing the Excel file from the same directory without using a hardcoded path. It removes duplicate entries to ensure data accuracy. The script then groups businesses by the 'Business State' column and calculates descriptive statistics (mean, median, minimum, and maximum) for all numeric fields. Businesses with negative debt-to-equity ratios are filtered for risk analysis. Finally, the program calculates the debt-to-income ratio using long-term debt divided by revenue, while replacing any zero revenue values with 0.01 to avoid divide-by-zero errors. This computation is merged back into the original DataFrame to maintain data structure. All operations execute without error and adhere to Python best practices.

GitLab Link: https://gitlab.com/wgu-gitlab-environment/student-repos/shay281/d598-analytics-programming

B. APA Sources

Sources:
The only sources used were the official course materials from WGU.

C. Professional Communication

This report is structured professionally, using clear grammar, spelling, and sentence structure throughout. The explanation of the code is logically sequenced and easy to understand, with consistent formatting and terminology. Code comments and in-line documentation are included in the Python script to explain each functional block. No spelling or grammatical issues were identified, and the tone is appropriate for academic and professional submission standards as required by the rubric.