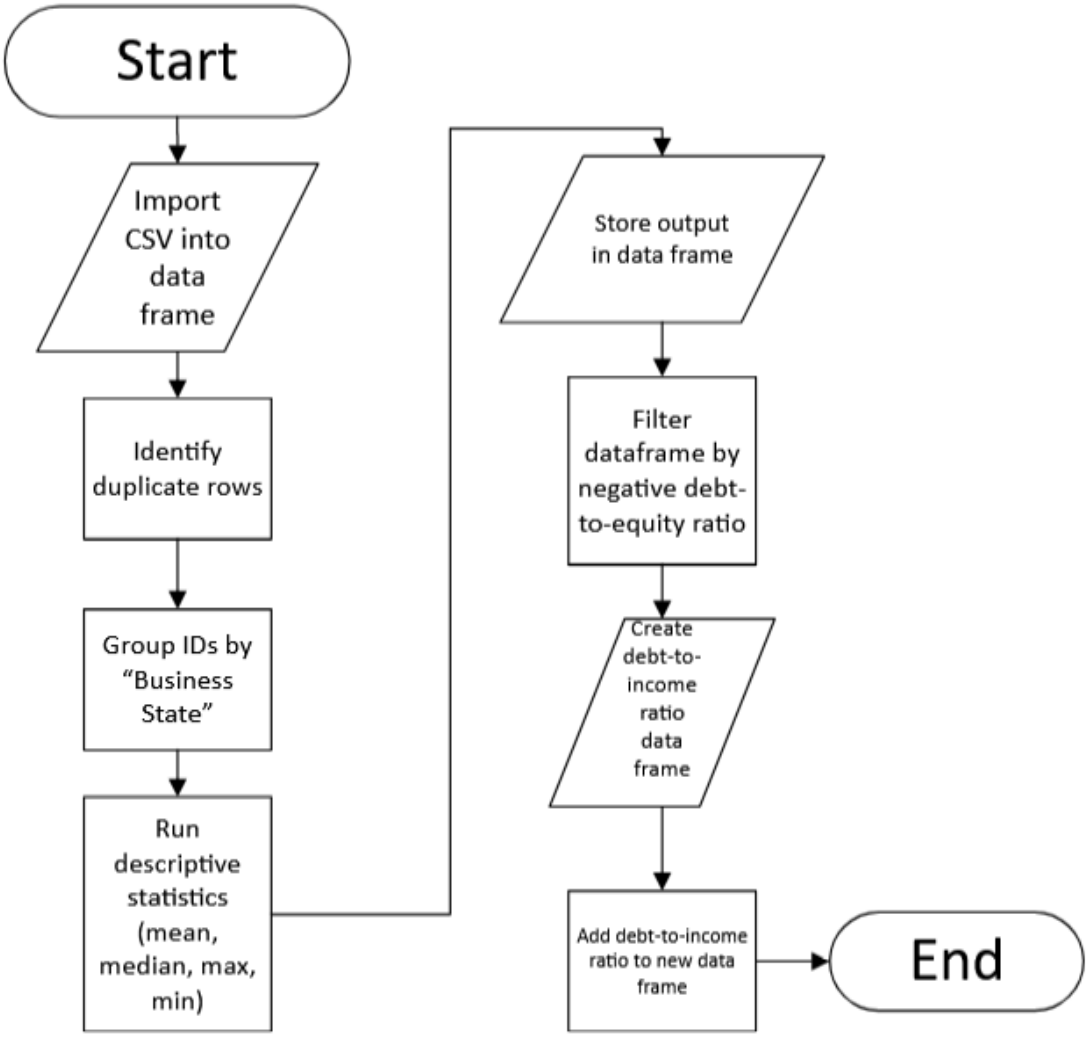
D598 Analytic Programming -- Task 1 (Program Planning)
By Eric Williams

A: FLOWCHART



B:PSEUDOCODE

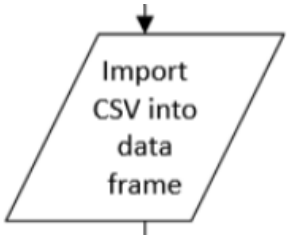
1. Start
2. Load/import the data from the CSV into a data frame
3. Identify the duplicate rows
4. Group the IDs by the “Business State” column
5. Calculate the mean, median, minimum, and maximum values for the following columns:
    a. Total Long-term Debt
    b. Total Equity
    c. Debt to Equity
    d. Total Liabilities
    e. Total Revenue
    f. Profit Margin
6. Store the results in a new data frame
7. Filter the new data frame by negative debt-to-equity ratio
8. Create a new data frame that provides the debt-to-income ratio
9. Concatenate the new debt-to-income ratio data frame with the original data frame
10. End

C1:FLOWCHART EXPLANATION and **C2:PSEUDOCODE EXPLANATION**

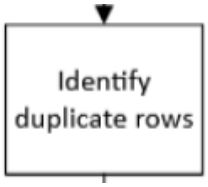
While I think the relationship between the flowchart and pseudocode is quite clear because it contains a lot of the same language, I will break it down here anyways section by section. I think it is reasonable that they both contain the same language because they are both describing the same process as simply as possible, though for the flowchart the phrases need to be simplified for readability. To describe the logic behind the chart: it helps that this process is fairly simple and linear, so naturally the flowchart is fairly straightforward and, reasonably, can just be followed in order. If there were more decisions or branches, an in depth description might be more helpful. Below I will list the pseudocode and the corresponding step on the flowchart.

Pseudocode Step 1: “Start”
Corresponding flowchart entry:

Pseudocode Step 2: “Load/import the data from the CSV into a data frame”
Corresponding flowchart entry:



Pseudocode Step 3: “Identify the duplicate rows”
Corresponding flowchart entry:



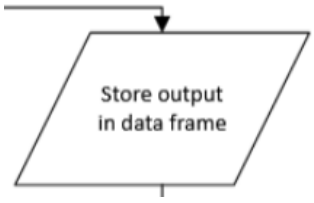
Pseudocode Step 4: “Group the IDs by the ‘Business State’ column”
Corresponding flowchart entry:

Pseudocode Step 5: “Calculate the mean, median, minimum, and maximum values for the following columns:

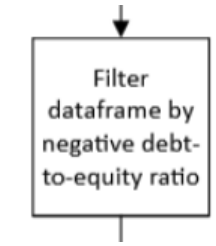
a. Total Long-term Debt
b. Total Equity
c. Debt to Equity
d. Total Liabilities
e. Total Revenue
f. Profit Margin”

Corresponding flowchart entry:

Pseudocode Step 6: “Store the results in a new data frame”
Corresponding flowchart entry:

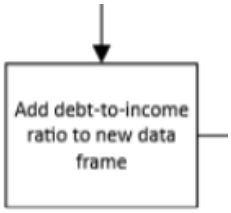


Pseudocode Step 7: “Filter the new data frame by negative debt-to-equity ratio”
Corresponding flowchart entry:

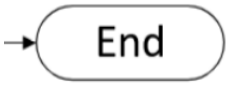


Pseudocode Step 8: “Create a new data frame that provides the debt-to-income ratio”
Corresponding flowchart entry:

Pseudocode Step 9: “Concatenate the new debt-to-income ratio data frame with the original data frame”
Corresponding flowchart entry:



Pseudocode Step 10: “End”
Corresponding flowchart entry:



Sources

No sources were used besides WGU course materials.