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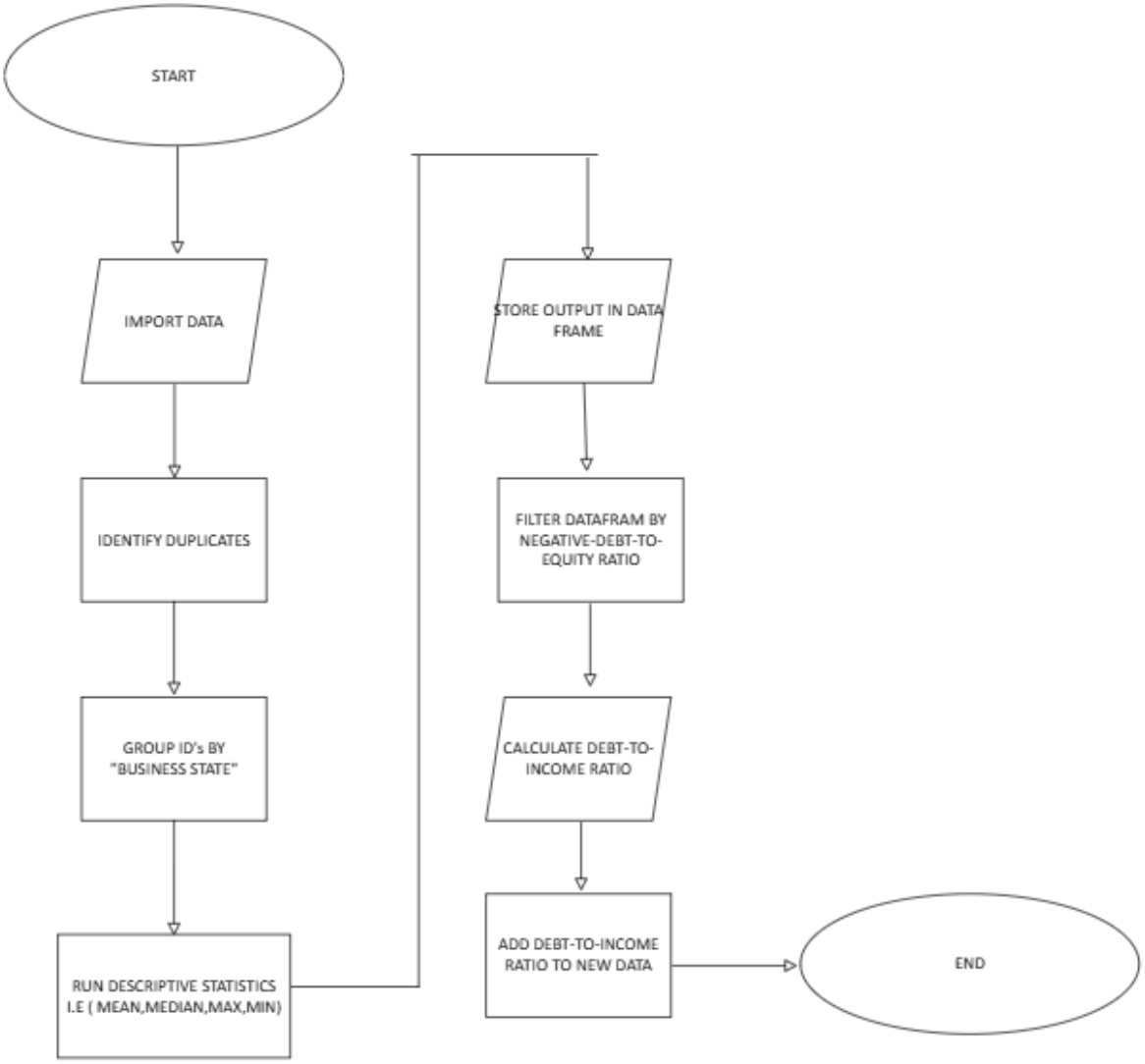
D598 Analytics Programming – Task 1 – Program Planning

A. Flowchart



B. Pseudocode

1.Start
2. Import data from "D598 Data Set" into a DataFrame.
3. Identify duplicates in the data frame.
   - If duplicates are found, remove them.
   - If no duplicates, continue.
4. Group the data/ID's by "Business state"
5. Store the results in a new data frame
5. Filter the data by negative debt-to-equity ratios.
5. Create a new data frame with debt-to-income ratios (long-term debt / revenue).
6. Concatenate the new debt-to-income ratio data frame with the original DataFrame.
7. End

C. Explanation of the relationship between the flowchart and pseudocode

C1. The flowchart outlines the steps needed to process the data and produce the desired results, beginning with importing the data and concluding with combining the outcomes. Each action in the pseudocode matches a corresponding symbol in the flowchart, ensuring the algorithm progresses through the steps in the correct order.

C2. The flowchart and pseudocode are closely related, as both outline the necessary steps to manipulate and analyze the dataset. The flowchart provides a clear visual representation of the sequence of operations, helping to understand the overall flow of tasks. On the other hand, the pseudocode offers a more detailed, step-by-step description of how each operation should be implemented in code. Both the flowchart and pseudocode work together to ensure that the tasks are performed in the correct order, starting from importing the data, processing it through various steps, and ultimately ending with the concatenation of the results. By aligning these two elements, it guarantees that the process is structured logically and can be translated into executable code without any errors.

D. Sources

No sources were used or necessary for this task.