

Pandas Library - Assignment

Task 1: Data Loading

Load a CSV file named 'students.csv' containing student records. Display the first 5 rows. Ensure the file has at least 5 columns (e.g., Name, Age, Grade, Subject, Score).

Task 2: Data Inspection

Display the column names, data types, and basic statistics of the dataset.

Task 3: Data Selection and Filtering

Select and display all records where the 'Score' is greater than 80. Then, show only the 'Name' and 'Score' columns.

Task 4: Data Cleaning

Check for missing values in the dataset. Fill missing 'Score' values with the mean of the 'Score' column.

Task 5: Data Manipulation

Add a new column called 'Result' where the value is 'Pass' if the Score is 50 or more, otherwise 'Fail'.

Task 6: Grouping and Aggregation

Group the data by 'Subject' and calculate the average Score for each subject.

Task 7: Sorting

Sort the dataset by 'Score' in descending order.

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Task 8: Exporting Data

Save the modified DataFrame into a new CSV file called 'processed_students.csv'.

Bonus Task: Data Visualization (Optional)

Using matplotlib or seaborn, create a bar chart showing the average score per subject.