- 1. Creating DataFrames from a Dictionary
- 2. Concept: DataFrame creation
- 3. Skills: Constructing a DataFrame from a dictionary of lists
- 4. Reading CSV Files into a DataFrame
- 5. Concept: File I/O
- 6. Skills: Using pd. read csv() to load data from CSV files
- 7. Calculating Mean Values for Each Subject
- 8. Concept: Data aggregation
- 9. Skills: Grouping data and calculating summary statistics (e.g., mean)
- 10. Displaying Column Names
- 11. Concept: Exploring DataFrames
- 12. Skills: Accessing DataFrame attributes and methods
- 13. Selecting a Column
- 14. Concept: Data selection
- 15. Skills: Indexing DataFrames to access specific columns
- 16. Filtering Rows Based on Conditions
- 17. Concept: Data filtering
- 18. Skills: Applying boolean indexing to filter rows
- 19. Creating DataFrames from Lists
- 20. Concept: DataFrame creation
- 21. Skills: Constructing a DataFrame from a list of lists (rows)
- 22. Adding a New Column with Default Values
- 23. Concept: DataFrame manipulation
- 24. Skills: Adding new columns and assigning default values
- 25. Renaming Columns
- 26. Concept: DataFrame modification
- 27. Skills: Renaming columns using rename () or direct assignment
- 28. Dropping a Column
 - o Concept: DataFrame modification
 - Skills: Removing columns using drop ()
- 29. Finding Missing Values
 - Concept: Data cleaning
 - Skills: Detecting missing values with isnull() and sum()

30. Replacing Missing Values with Column Mean

- Concept: Data cleaning
- Skills: Filling missing values using fillna() with mean values

31. Sorting DataFrame by Column

- · Concept: Data sorting
- Skills: Sorting rows using sort values ()

32. Filtering Rows Based on a Range of Values

- Concept: Data filtering
- o Skills: Filtering rows using conditions on a numeric column

33. Handling Dates in DataFrames

- o Concept: Date manipulation
- o Skills: Working with date formats and displaying dates

34. Selecting Rows with Maximum Values

- Concept: Data selection
- · Skills: Filtering rows based on maximum values in a column

35. Combining DataFrames along Rows

- Concept: Data concatenation
- Skills: Merging DataFrames using concat ()

36. Saving DataFrame to a CSV File

- o Concept: File I/O
- Skills: Writing data to a CSV file using to_csv()

37. Applying a Discount to Prices and Creating a New Column

- Concept: Data manipulation
- Skills: Performing operations on columns and creating new columns

38. Generating Summary Statistics

- Concept: Data analysis
- Skills: Using describe () to get statistical summaries of the DataFrame