**Assignment 1: Initial Data Exploration**

1. Load the dataset using read\_csv.
2. Display the first 10 rows using head().
3. Display the last 5 rows using tail().
4. Print the shape and column names of the dataset.
5. Use info() and describe() to summarize the dataset.

**Assignment 2: Column Exploration and Filtering**

1. Find the unique values in the "category" and "sex" columns.
2. Count the frequency of each unique value in the "sex" column.
3. Filter rows where "category" is "Athletics" and the "sex" is "Female".
4. Filter rows where the year is between 1990 and 2010 (inclusive).

**Assignment 3: Logical Conditions**

1. Use a condition to filter rows where either:
   * The "category" is "Swimming" and the "sex" is "Male".
   * Or the "category" is "Gymnastics".
2. Save the filtered DataFrame to a new variable.

**Assignment 4: Slicing and Subsetting**

1. Use df.filter to create a DataFrame with only the "sex" and "category" columns.
2. Use loc to extract all rows and columns from "category" to "sex".

**Assignment 5: Date Manipulations**

1. Identify if there are any columns representing dates.
2. If yes, convert them into datetime format.
3. Filter rows based on a specific range of years or dates (use .between()).

**Assignment 6: Missing Data**

1. Check for missing data using isnull().sum().
2. Sort the columns based on the count of missing values using .sort\_values().
3. Create a shallow copy of the dataset and drop rows with missing values.

**Assignment 7: Combining Concepts**

1. Filter rows where:
   * "category" is "Athletics"
   * "year" is between 2000 and 2016.
2. Display the shape of the filtered dataset.
3. Extract a subset with columns from "category" to "sex".
4. Count unique values in the "category" column.

**Assignment 8: Descriptive Statistics**

1. Use describe(include='all') to analyze all columns.
2. Compare the summary statistics for subsets:
   * Rows where "sex" is "Male".
   * Rows where "sex" is "Female".

**Assignment 9: Advanced Filtering**

1. Create a filter to find rows where "category" contains "Track" or "Field".
2. Use .loc to update a column value for the filtered rows.
3. Count how many rows were updated.

**Assignment 10: Comprehensive Analysis**

1. Load the dataset and perform the initial exploration (head, info, shape, etc.).
2. Filter rows where "category" is "Swimming" and the "year" is greater than 2010.
3. Check for missing data in the filtered dataset.
4. Extract and display the count of unique values in the "category" column.
5. Save this filtered DataFrame to a new CSV file.

Let me know if you need solutions or further clarification!