Visualization of Top 10 Goal Scorers of All Time

Objective

This Python script is designed to visualize the Top 10 Goal Scorers of All Time using a horizontal bar chart. The chart highlights the number of goals scored by each player, sorted in descending order.

Prerequisites

Ensure you have the following installed:
- Python 3.x
- Libraries: matplotlib, pandas, and collections.Counter.

Additionally:
- A CSV file containing the dataset of goal scorers (`Goalscorers.csv`) in the appropriate directory structure.

Code Breakdown

1. Importing Necessary Libraries

```
import matplotlib.pyplot as plt
import pandas as pd
from collections import Counter
```

matplotlib.pyplot: Used for creating visualizations.
pandas: Utilized for data manipulation and analysis.
collections.Counter: A convenient tool to count occurrences in a dataset.

2. Setting the Plot Style

```
plt.style.use('fivethirtyeight')
```

- The visualization uses the `fivethirtyeight` style for a clean and professional look.

3. Loading and Preprocessing Data

```
data = pd.read_csv('Data(file_format_CSV)\Goalscorers.csv')
Goal_Scorers_Data = data['scorer'].dropna().replace('Cristiano Ronaldo',
'Cr.Ronaldo').replace('Robert Lewandowski', 'Lewandowski')
Goal_Scorers_Data_count = Counter(Goal_Scorers_Data)
```

- Reads data from a CSV file named `Goalscorers.csv`.
- Handles missing values using `.dropna()` and replaces long names for better readability.
- Counts the frequency of each player's name in the dataset using `Counter`.

4. Extracting the Top 10 Goal Scorers

```
Top_Scorers = Goal_Scorers_Data_count.most_common(10)
Top_players = []
Top_scores = []
for items in Top_Scorers:
    Top_players.append(items[0])
    Top_scores.append(items[1])
Top_players.reverse()
Top_scores.reverse()
```

- Identifies the top 10 players with the highest goal counts.
- Separates player names (`Top_players`) and their respective goal counts (`Top_scores`).
- Reverses the order for better visualization.

5. Plotting the Data

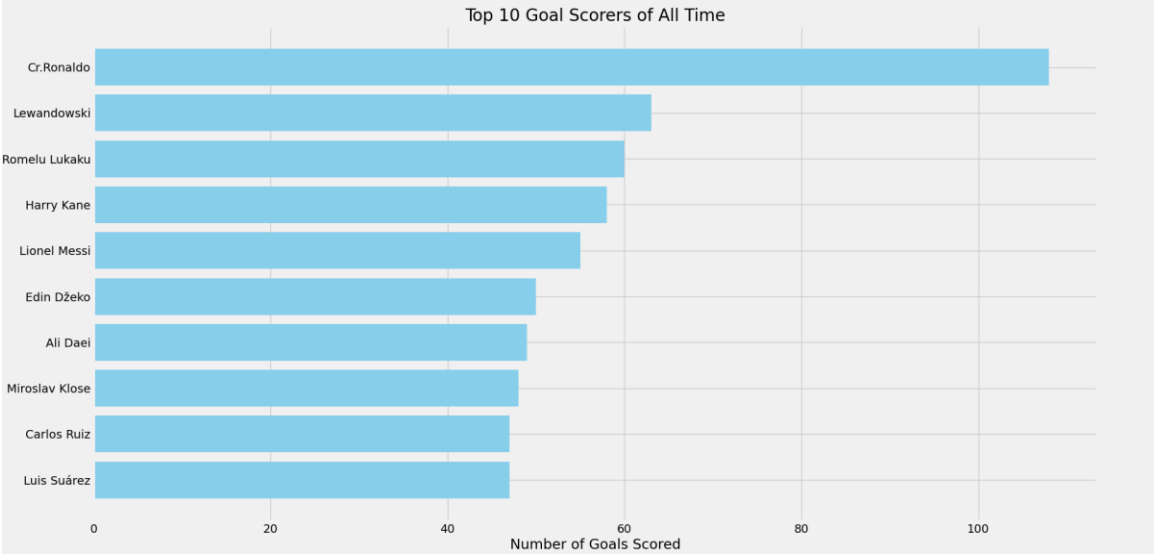
```
plt.figure(figsize=(20, 15))
plt.barh(Top_players, Top_scores, color='skyblue')
plt.ylabel('Players')
plt.xlabel('Number of Goals Scored')
plt.title('Top 10 Goal Scorers of All Time')
plt.show()
```

- Creates a horizontal bar chart with a figure size of 20x15 inches.
- Labels the x-axis (`Number of Goals Scored`) and y-axis (`Players`).
- Displays the final visualization.

Output

The script produces a horizontal bar chart that:
1. Displays the top 10 players with the highest goal counts.
2. Provides an intuitive comparison of the number of goals scored.
3. Uses abbreviated player names for better aesthetics.

Visualization



How to Run

1. Save the script as a `.py` file.
2. Ensure the `Goalscorers.csv` file is present in the specified path.
3. Run the script using a Python interpreter:

```
python script_name.py
```

Notes

- Modify the file path in `pd.read_csv()` if your CSV file is stored in a different location.
- Ensure the dataset contains a column named `'scorer'` with player names.