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import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

np.random.seed(42)
positions = ['Forward', 'Midfielder', 'Defender', 'Goalkeeper']
names = [f'Player{i}' for i in range(1, 31)]
ages = np.random.randint(18, 36, size=30)
positions_sampled = np.random.choice(positions, size=30)
goals = np.random.poisson(lam=5, size=30)
salaries = np.random.randint(1000, 10000, size=30)

df = pd.DataFrame({
    'Name': names,
    'Age': ages,
    'Position': positions_sampled,
    'Goals': goals,
    'WeeklySalary': salaries
})

csv_path = "soccer_players.csv"
df.to_csv(csv_path, index=False)

df = pd.read_csv(csv_path)

top_5_goals = df.nlargest(5, 'Goals')

top_5_salaries = df.nlargest(5, 'WeeklySalary')

average_age = df['Age'].mean()
players_above_average_age = df[df['Age'] > average_age]['Name']

plt.figure(figsize=(8, 6))
sns.countplot(x='Position', data=df, palette='Set2')
plt.title('Distribution of Players Based on Positions')
plt.xlabel('Position')
plt.ylabel('Number of Players')
plt.tight_layout()
plt.show()

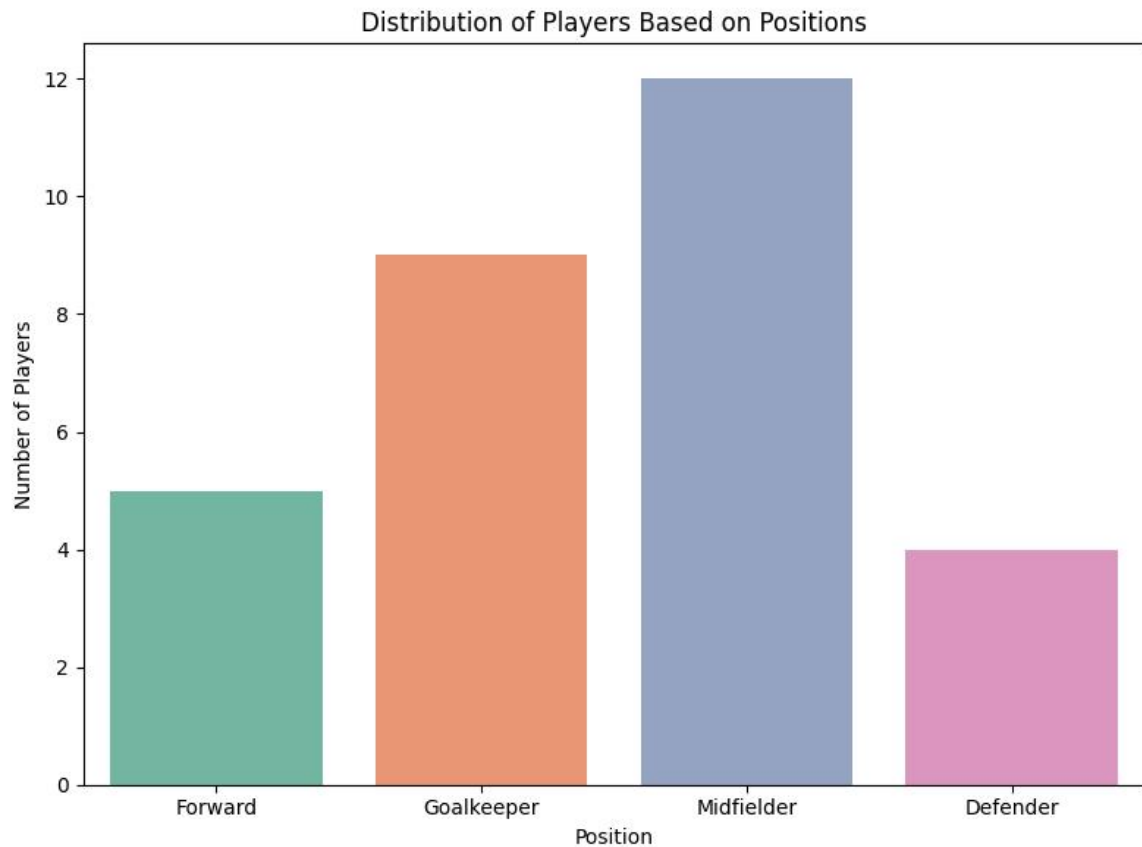
print("Top 5 Players with the Highest Number of Goals Scored:")
print(top_5_goals[['Name', 'Goals']])

print("\nTop 5 Players with the Highest Weekly Salaries:")
print(top_5_salaries[['Name', 'WeeklySalary']])

print(f"\nAverage Age of Players: {average_age:.2f}")
print("\nPlayers Above the Average Age:")
print(players_above_average_age)

```

OUTPUT



Top 5 Players with the Highest Number of Goals Scored:

	Name	Goals
1	Player2	10
23	Player24	10
4	Player5	9
22	Player23	9
18	Player19	8

Top 5 Players with the Highest Weekly Salaries:

	Name	WeeklySalary
6	Player7	9319
23	Player24	9096
19	Player20	8806
24	Player25	8560
15	Player16	8455

Average Age of Players: 26.00

Players Above the Average Age:

1	Player2
2	Player3
5	Player6
6	Player7
11	Player12
15	Player16
16	Player17

17 Player18
18 Player19
19 Player20
20 Player21
21 Player22
22 Player23
28 Player29