In [1]:

```
# استيراد المكتبات اللازمة
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# قراءة بيانات الأهداف
file_path = 'C:/Users/Malak/Documents/results.csv'
data = pd.read_csv(file_path)

# استعراض البيانات الأولية
print(data.head())

# فحص معلومات البيانات لمعرفة الأعمدة وأنواع البيانات
print(data.info())
```

```
          Date        HomeTeam Result                  AwayTeam
0  13-Aug-2021       Brentford    2:0                   Arsenal
1  14-Aug-2021         Burnley    1:2  Brighton and Hove Albion
2  14-Aug-2021         Chelsea    3:0            Crystal Palace
3  14-Aug-2021         Everton    3:1               Southampton
4  14-Aug-2021  Leicester City    1:0   Wolverhampton Wanderers
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 380 entries, 0 to 379
Data columns (total 4 columns):
 #   Column    Non-Null Count  Dtype 
---  ------    --------------  ----- 
 0   Date      380 non-null    object
 1   HomeTeam  380 non-null    object
 2   Result    380 non-null    object
 3   AwayTeam  380 non-null    object
dtypes: object(4)
memory usage: 12.0+ KB
None
```

In [ ]:

In [ ]:

In [9]:

```
# تنظيف البيانات إذا لزم الأمر
# التعامل مع القيم المفقودة
data.dropna(inplace=True)

# تحويل عمود التاريخ إلى نوع تاريخي
data['Date'] = pd.to_datetime(data['Date'], format='%d-%b-%Y')

# استخراج الأهداف من عمود النتائج
data[['HomeGoals', 'AwayGoals']] = data['Result'].str.split(':', expand=True).astype(int)

# التحقق من القيم الفريدة في الأعمدة الهامة
print(data['HomeTeam'].unique())
print(data['AwayTeam'].unique())
print(data['HomeGoals'].unique())
print(data['AwayGoals'].unique())
print(data['Date'].unique())

# استعراض البيانات بعد التنظيف
print(data.head())
print(data.info())
```

```
['Brentford' 'Burnley' 'Chelsea' 'Everton' 'Leicester City'
 'Manchester United' 'Norwich City' 'Watford' 'Newcastle United'
 'Tottenham Hotspur' 'Aston Villa' 'Brighton and Hove Albion'
 'Crystal Palace' 'Leeds United' 'Liverpool' 'Manchester City' 'Arsenal'
 'Southampton' 'Wolverhampton Wanderers' 'West Ham United']
['Arsenal' 'Brighton and Hove Albion' 'Crystal Palace' 'Southampton'
 'Wolverhampton Wanderers' 'Leeds United' 'Liverpool' 'Aston Villa'
 'West Ham United' 'Manchester City' 'Newcastle United' 'Watford'
 'Brentford' 'Everton' 'Burnley' 'Norwich City' 'Chelsea'
 'Manchester United' 'Tottenham Hotspur' 'Leicester City']
[2 1 3 5 0 4 7 6]
[0 2 1 3 4 5 6]
<DatetimeArray>
['2021-08-13 00:00:00', '2021-08-14 00:00:00', '2021-08-15 00:00:00',
 '2021-08-21 00:00:00', '2021-08-22 00:00:00', '2021-08-23 00:00:00',
 '2021-08-28 00:00:00', '2021-08-29 00:00:00', '2021-09-11 00:00:00',
 '2021-09-12 00:00:00',
 ...
 '2022-05-07 00:00:00', '2022-05-08 00:00:00', '2022-05-10 00:00:00',
 '2022-05-11 00:00:00', '2022-05-12 00:00:00', '2022-05-15 00:00:00',
 '2022-05-16 00:00:00', '2022-05-17 00:00:00', '2022-05-19 00:00:00',
 '2022-05-22 00:00:00']
Length: 123, dtype: datetime64[ns]
        Date        HomeTeam Result                  AwayTeam  HomeGoals  \
0 2021-08-13       Brentford    2:0                   Arsenal          2   
1 2021-08-14         Burnley    1:2  Brighton and Hove Albion          1   
2 2021-08-14         Chelsea    3:0            Crystal Palace          3   
3 2021-08-14         Everton    3:1               Southampton          3   
4 2021-08-14  Leicester City    1:0   Wolverhampton Wanderers          1   

   AwayGoals  
0          0  
1          2  
2          0  
3          1  
4          0  
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 380 entries, 0 to 379
Data columns (total 6 columns):
 #   Column     Non-Null Count  Dtype         
---  ------     --------------  -----         
 0   Date       380 non-null    datetime64[ns]
 1   HomeTeam   380 non-null    object        
 2   Result     380 non-null    object        
 3   AwayTeam   380 non-null    object        
 4   HomeGoals  380 non-null    int32         
 5   AwayGoals  380 non-null    int32         
dtypes: datetime64[ns](1), int32(2), object(3)
memory usage: 15.0+ KB
None
```

In [ ]:

In [13]:

```
# طباعة البيانات للتحقق
print(recent_matches.head())

# التحقق من وجود بيانات
if recent_matches.empty:
    print("No recent matches found in the specified period.")
else:
    # حساب الأهداف لكل فريق في المباريات الأخيرة
    home_goals_recent = recent_matches.groupby('HomeTeam')['HomeGoals'].sum()
    away_goals_recent = recent_matches.groupby('AwayTeam')['AwayGoals'].sum()

    # دمج الأهداف المنزلية والخارجية لكل فريق
    goals_scored_recent = home_goals_recent.add(away_goals_recent, fill_value=0)

    # الفريق الذي سجل أكبر عدد من الأهداف في المباريات الأخيرة
    most_goals_team = goals_scored_recent.idxmax()
    most_goals = goals_scored_recent.max()

    # طباعة النتائج
    print(f'The team with the most goals in recent matches: {most_goals_team} ({most_goals} goals)')
```

```
Empty DataFrame
Columns: [Date, HomeTeam, Result, AwayTeam, HomeGoals, AwayGoals]
Index: []
No recent matches found in the specified period.
```

In [24]:

```
df = pd.DataFrame(data)

# Print all column names
print(df.columns)
```

```
Index(['Date', 'HomeTeam', 'Result', 'AwayTeam', 'HomeGoals', 'AwayGoals'], dtype='object')
```

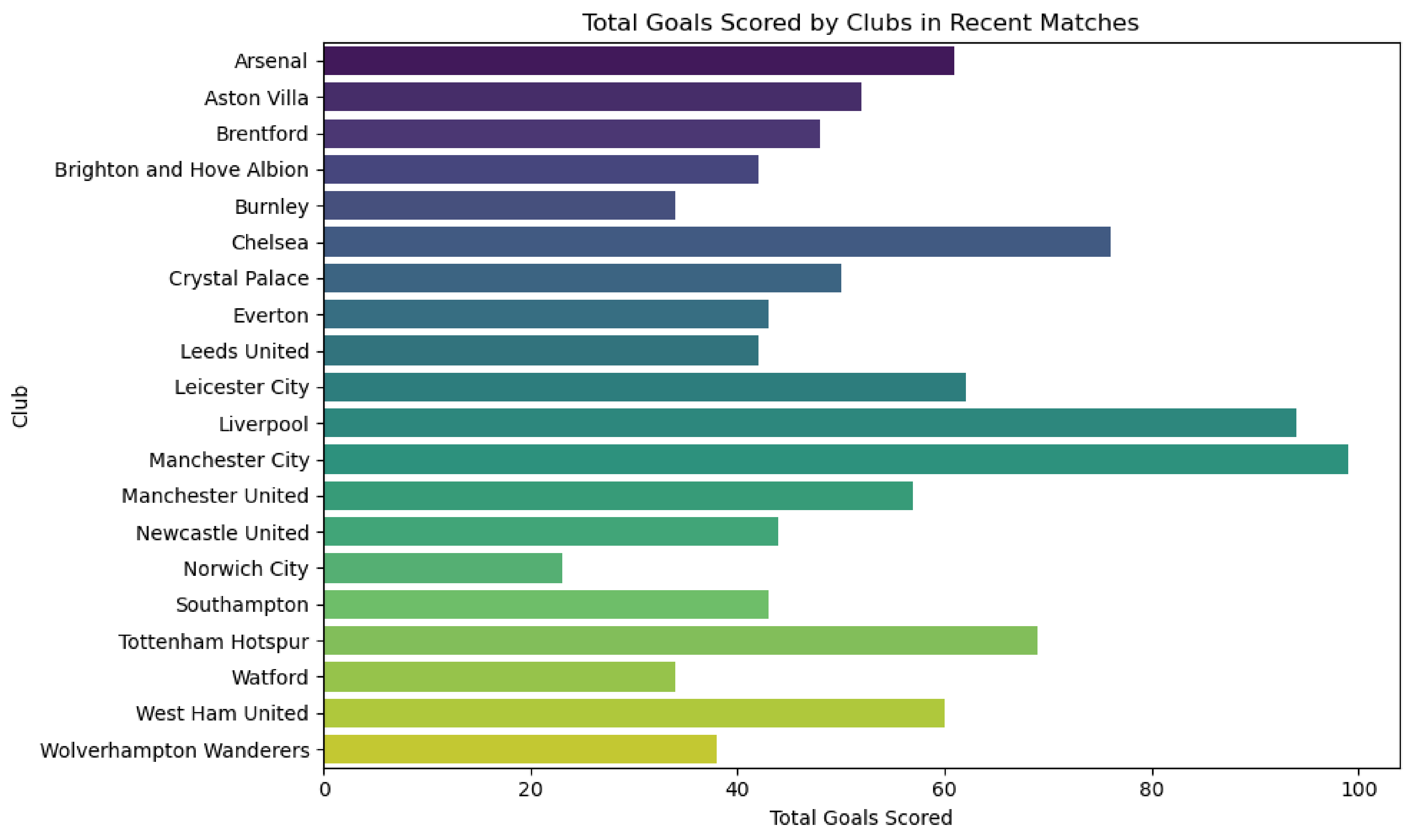
In [25]:

```
# Calculate total goals scored by each club
df['TotalHomeGoals'] = df.groupby('HomeTeam')['HomeGoals'].transform('sum')
df['TotalAwayGoals'] = df.groupby('AwayTeam')['AwayGoals'].transform('sum')

# Combine home and away goals into a single DataFrame
home_goals = df[['HomeTeam', 'TotalHomeGoals']].drop_duplicates().set_index('HomeTeam')
away_goals = df[['AwayTeam', 'TotalAwayGoals']].drop_duplicates().set_index('AwayTeam')

# Merge home and away goals into a single DataFrame
goals_scored = home_goals.join(away_goals, how='outer').fillna(0)
goals_scored['TotalGoals'] = goals_scored['TotalHomeGoals'] + goals_scored['TotalAwayGoals']

# Plotting
plt.figure(figsize=(10, 6))
sns.barplot(x=goals_scored['TotalGoals'].values, y=goals_scored.index, palette='viridis')
plt.xlabel('Total Goals Scored')
plt.ylabel('Club')
plt.title('Total Goals Scored by Clubs in Recent Matches')
plt.tight_layout()
plt.show()
```



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In [ ]:
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In [ ]:
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