In [1]:
```
import pandas as pd
import numpy as np
```

In [2]:
```
df = pd.read_csv('t20_wc_2024_deliveries.csv')
```

In [3]:
```
df
```

Out[3]:

	match_id	season	phase	match_no	date	venue	batting_team	bowling_team	innings	over	...	bowler	runs_of_ba
0	202401	2024	Final	1	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	IND	RSA	1	0	...	Marco Jansen	
1	202401	2024	Group A	1	Jun 01, 2024	Grand Prairie Stadium, Dallas	CAN	USA	1	0	...	Ali Khan	
2	202401	2024	Group A	1	Jun 01, 2024	Grand Prairie Stadium, Dallas	CAN	USA	1	0	...	Ali Khan	
3	202401	2024	Final	1	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	IND	RSA	1	0	...	Marco Jansen	
4	202401	2024	Group A	1	Jun 01, 2024	Grand Prairie Stadium, Dallas	CAN	USA	1	0	...	Ali Khan	
...	...	...	...	...	...	...	...	...	...	...	...	...	...
11829	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	
11830	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	
11831	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	
11832	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	
11833	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	

11834 rows × 23 columns

In [4]:
```
df.head()
```

Out[4]:

	match_id	season	phase	match_no	date	venue	batting_team	bowling_team	innings	over	...	bowler	runs_of_bat	ex
0	202401	2024	Final	1	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	IND	RSA	1	0	...	Marco Jansen	1	
1	202401	2024	Group A	1	Jun 01, 2024	Grand Prairie Stadium, Dallas	CAN	USA	1	0	...	Ali Khan	4	
2	202401	2024	Group A	1	Jun 01, 2024	Grand Prairie Stadium, Dallas	CAN	USA	1	0	...	Ali Khan	0	
3	202401	2024	Final	1	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	IND	RSA	1	0	...	Marco Jansen	4	
4	202401	2024	Group A	1	Jun 01, 2024	Grand Prairie Stadium, Dallas	CAN	USA	1	0	...	Ali Khan	0	

5 rows × 23 columns

In [5]:
```
df.tail()
```

Out[5]:

	match_id	season	phase	match_no	date	venue	batting_team	bowling_team	innings	over	...	bowler	runs_of_ba
11829	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	
11830	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	
11831	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	
11832	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	
11833	202455	2024	Final	55	Jun 29, 2024	Kensington Oval, Bridgetown, Barbados	RSA	IND	2	19	...	Hardik Pandya	

5 rows × 23 columns

In [6]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 11834 entries, 0 to 11833
Data columns (total 23 columns):
 #   Column            Non-Null Count  Dtype
---  ------            --------------  -----
 0   match_id          11834 non-null  int64
 1   season            11834 non-null  int64
 2   phase             11834 non-null  object
 3   match_no          11834 non-null  int64
 4   date              11834 non-null  object
 5   venue             11834 non-null  object
 6   batting_team      11834 non-null  object
 7   bowling_team      11834 non-null  object
 8   innings           11834 non-null  int64
 9   over              11834 non-null  int64
 10  Over_No.          11834 non-null  int64
 11  Ball_Faced        11833 non-null  float64
 12  striker           11834 non-null  object
 13  bowler            11834 non-null  object
 14  runs_of_bat       11834 non-null  int64
 15  extras            11834 non-null  int64
 16  wide              11834 non-null  int64
 17  legbyes           11834 non-null  int64
 18  byes              11831 non-null  float64
 19  noballs           11834 non-null  int64
 20  wicket_type       708 non-null    object
 21  player_dismissed  708 non-null    object
 22  fielder           493 non-null    object
dtypes: float64(2), int64(11), object(10)
memory usage: 2.1+ MB
```

In [7]:
```
df.isnull().sum()
```

Out[7]:
```
match_id              0
season                0
phase                 0
match_no              0
date                  0
venue                 0
batting_team          0
bowling_team          0
innings               0
over                  0
Over_No.              0
Ball_Faced            1
striker               0
bowler                0
runs_of_bat           0
extras                0
wide                  0
legbyes               0
byes                  3
noballs               0
wicket_type       11126
player_dismissed  11126
fielder           11341
dtype: int64
```

In [8]:
```
# fill the empty values

Ball_Faced_mode = df['Ball_Faced'].mode()[0]
df['Ball_Faced'] = df['Ball_Faced'].fillna(Ball_Faced_mode)

wicket_type_mode = df['wicket_type'].mode()[0]
df['wicket_type'] = df['wicket_type'].fillna(wicket_type_mode)

player_dismissed_mode = df['player_dismissed'].mode()[0]
df['player_dismissed'] = df['player_dismissed'].fillna(player_dismissed_mode)

fielder_mode = df['fielder'].mode()[0]
df['fielder'] = df['fielder'].fillna(fielder_mode)

byes_mode = df['byes'].mode()[0]
df['byes'] = df['byes'].fillna(byes_mode)
```

In [9]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 11834 entries, 0 to 11833
Data columns (total 23 columns):
 #   Column            Non-Null Count  Dtype  
---  ------            --------------  -----  
 0   match_id          11834 non-null  int64  
 1   season            11834 non-null  int64  
 2   phase             11834 non-null  object 
 3   match_no          11834 non-null  int64  
 4   date              11834 non-null  object 
 5   venue             11834 non-null  object 
 6   batting_team      11834 non-null  object 
 7   bowling_team      11834 non-null  object 
 8   innings           11834 non-null  int64  
 9   over              11834 non-null  int64  
 10  Over_No.          11834 non-null  int64  
 11  Ball_Faced        11834 non-null  float64
 12  striker           11834 non-null  object 
 13  bowler            11834 non-null  object 
 14  runs_of_bat       11834 non-null  int64  
 15  extras            11834 non-null  int64  
 16  wide              11834 non-null  int64  
 17  legbyes           11834 non-null  int64  
 18  byes              11834 non-null  float64
 19  noballs           11834 non-null  int64  
 20  wicket_type       11834 non-null  object 
 21  player_dismissed  11834 non-null  object 
 22  fielder           11834 non-null  object 
dtypes: float64(2), int64(11), object(10)
memory usage: 2.1+ MB
```

In [10]:
```
df.isnull().sum()
```

Out[10]:
```
match_id            0
season              0
phase               0
match_no            0
date                0
venue               0
batting_team        0
bowling_team        0
innings             0
over                0
Over_No.            0
Ball_Faced          0
striker             0
bowler              0
runs_of_bat         0
extras              0
wide                0
legbyes             0
byes                0
noballs             0
wicket_type         0
player_dismissed    0
fielder             0
dtype: int64
```

In [11]:
```
df.shape
```

Out[11]:
```
(11834, 23)
```

In [12]:
```
df.columns
```

Out[12]:
```
Index(['match_id', 'season', 'phase', 'match_no', 'date', 'venue',
       'batting_team', 'bowling_team', 'innings', 'over', 'Over_No.',
       'Ball_Faced', 'striker', 'bowler', 'runs_of_bat', 'extras', 'wide',
       'legbyes', 'byes', 'noballs', 'wicket_type', 'player_dismissed',
       'fielder'],
      dtype='object')
```

In [13]:
```
df['match_id'].value_counts()
```

Out[13]:
```
match_id
202401    491
202411    268
202453    264
202403    255
202443    254
202410    252
202441    252
202417    251
202455    251
202447    250
202421    249
202445    249
202435    249
202413    249
202415    247
202431    247
202451    245
202426    245
202448    244
202427    244
202416    243
202419    243
202412    242
202402    241
202442    240
202437    240
202436    239
202425    236
202422    236
202409    236
202407    233
202438    233
202452    232
202450    228
202440    227
202405    222
202454    221
202404    219
202429    219
202414    217
202420    203
202418    201
202439    196
202444    195
202446    195
202408    182
202449    177
202432    153
202424    139
202434    124
202428    104
202406     62
Name: count, dtype: int64
```

In [14]:
```
df.columns
```

Out[14]:
```
Index(['match_id', 'season', 'phase', 'match_no', 'date', 'venue',
       'batting_team', 'bowling_team', 'innings', 'over', 'Over_No.',
       'Ball_Faced', 'striker', 'bowler', 'runs_of_bat', 'extras', 'wide',
       'legbyes', 'byes', 'noballs', 'wicket_type', 'player_dismissed',
       'fielder'],
      dtype='object')
```

In [15]:
```
df['match_no'].value_counts()
```

Out[15]:
```
match_no
1     491
11    268
53    264
3     255
43    254
10    252
41    252
17    251
55    251
47    250
21    249
45    249
35    249
13    249
15    247
31    247
51    245
26    245
48    244
27    244
16    243
19    243
12    242
2     241
42    240
37    240
36    239
25    236
22    236
9     236
7     233
38    233
52    232
50    228
40    227
5     222
54    221
4     219
29    219
14    217
20    203
18    201
39    196
44    195
46    195
8     182
49    177
32    153
24    139
34    124
28    104
6      62
Name: count, dtype: int64
```

In [16]:
```
df.columns
```

Out[16]:
```
Index(['match_id', 'season', 'phase', 'match_no', 'date', 'venue',
       'batting_team', 'bowling_team', 'innings', 'over', 'Over_No.',
       'Ball_Faced', 'striker', 'bowler', 'runs_of_bat', 'extras', 'wide',
       'legbyes', 'byes', 'noballs', 'wicket_type', 'player_dismissed',
       'fielder'],
      dtype='object')
```

In [17]:
```
df['batting_team'].value_counts()
```

Out[17]:
```
batting_team
RSA     1174
IND     1063
AFG      963
BAN      855
WI       815
USA      745
AUS      719
ENG      603
PNG      489
PAK      482
NED      467
OMAN     462
NAM      419
UGA      409
SCO      386
CAN      373
SL       367
NEP      363
IRE      349
NZ       331
Name: count, dtype: int64
```

In [18]:
```
df['bowling_team'].value_counts()
```

Out[18]:
```
bowling_team
RSA     1278
IND     1069
AFG      916
AUS      856
ENG      825
BAN      802
WI       762
USA      624
PAK      504
NED      486
NZ       480
UGA      403
PNG      403
SCO      370
NEP      357
CAN      353
OMAN     352
NAM      341
SL       332
IRE      321
Name: count, dtype: int64
```

In [19]:
```
df.columns
```

Out[19]:
```
Index(['match_id', 'season', 'phase', 'match_no', 'date', 'venue',
       'batting_team', 'bowling_team', 'innings', 'over', 'Over_No.',
       'Ball_Faced', 'striker', 'bowler', 'runs_of_bat', 'extras', 'wide',
       'legbyes', 'byes', 'noballs', 'wicket_type', 'player_dismissed',
       'fielder'],
      dtype='object')
```

In [20]:
```
df['extras'].value_counts()
```

Out[20]:
```
extras
0    11155
1      589
2       39
4       27
5       20
3        4
Name: count, dtype: int64
```

In [21]:
```
df['wicket_type'].value_counts()
```

Out[21]:
```
wicket_type
caught          11564
bowled            139
lbw                75
runout             40
stumped            15
retired hurt        1
Name: count, dtype: int64
```

In [22]:
```
df['player_dismissed'].value_counts()
```

Out[22]:
```
player_dismissed
de Kock           11137
Rohit                 9
Azmatullah            9
Kohli                 9
Gurbaz                9
                  ...
Samarawickrama        1
Shepherd              1
Alzarri Joseph        1
Neesham               1
Jofra Archer          1
Name: count, Length: 229, dtype: int64
```

In [23]:
```
df['fielder'].value_counts()
```

Out[23]:
```
fielder
Pant                     11357
de Kock                     13
Markram                      9
Suryakumar Yadav             8
Buttler                      8
                         ...
Ottneil Baartman             1
Tim Pringle                  1
van Meekeren/Max ODowd       1
Jessy Singh                  1
Kuldeep/Axar                 1
Name: count, Length: 206, dtype: int64
```

In [24]:
```
df['wide'].value_counts()
```

Out[24]:
```
wide
0    11430
1      404
Name: count, dtype: int64
```

In [25]:
```
df['noballs'].value_counts()
```

Out[25]:
```
noballs
0    11786
1       48
Name: count, dtype: int64
```

In [26]:
```
df['byes'].value_counts()
```

Out[26]:
```
byes
0.0    11791
1.0       43
Name: count, dtype: int64
```

In [27]:
```
df['legbyes'].value_counts()
```

Out[27]:
```
legbyes
0    11649
1      185
Name: count, dtype: int64
```

In [28]:
```
df['striker'].value_counts()
```

Out[28]:
```
striker
Gurbaz            236
Ibrahim Zadran    225
de Kock           219
Kohli             202
Miller            188
                 ...
Ssenyondo           1
Bumrah              1
M Bracewell         1
Samarawickrama      1
Hendricks           1
Name: count, Length: 251, dtype: int64
```

In [29]:
```
df['bowler'].value_counts()
```

Out[29]:
```
bowler
Nortje                269
Marco Jansen          251
Rabada                237
Arshdeep Singh        219
Bumrah                203
                     ...
Pargat Singh            6
Ben Shikongo            6
Glenn Phillips          6
Nangeyalia Kharote      6
Fayyaz Butt             1
Name: count, Length: 166, dtype: int64
```

In [30]:
```
df['runs_of_bat'].value_counts()
```

Out[30]:
```
runs_of_bat
0    5743
1    3779
4    1009
2     716
6     535
3      50
5       2
Name: count, dtype: int64
```

Batting Stats

In [31]:
```
total_matches = df['match_id'].nunique()
```

In [32]:
```
print(f"Total matches played:", total_matches)
```

```
Total matches played: 52
```

In [33]:
```
runs_scored = df.groupby('striker')['runs_of_bat'].sum().reset_index()
runs_scored.columns = ['striker', 'runs_scored']
```

In [34]:
```
valid_balls = df[(df['wide'] == 0) & (df['noballs'] == 0)]
```

In [35]:
```
balls_faced = valid_balls.groupby('striker').size().reset_index(name='total_balls_faced')
```

In [36]:
```
batting_stats = pd.merge(runs_scored, balls_faced, on='striker')
```

In [37]:
```
batting_stats['strike_rate'] = (batting_stats['runs_scored'] / batting_stats['total_balls_faced']) * 100
```

In [38]:
```
batting_stats[['striker', 'runs_scored', 'total_balls_faced', 'strike_rate']].head()
```

Out[38]:

	striker	runs_scored	total_balls_faced	strike_rate
0	Aaron Johnson	89	73	121.917808
1	Aaron Jones	173	126	137.301587
2	Aasif Sheikh	63	71	88.732394
3	Abbas Afridi	17	21	80.952381
4	Abinash Bohara	0	2	0.000000

In [39]:
```
Fours = df[df['runs_of_bat'] == 4].groupby('striker').size()
```

In [40]:
```
Fours.head()
```

Out[40]:
```
striker
Aaron Johnson    12
Aaron Jones       9
Aasif Sheikh      9
Abbas Afridi      1
Achelam           1
dtype: int64
```

In [41]:
```
Sixes = df[df['runs_of_bat'] == 6].groupby('striker').size()
```

In [42]:
```
Sixes.head()
```

Out[42]:
```
striker
Aaron Johnson     4
Aaron Jones      14
Aasif Sheikh      1
Abbas Afridi      1
Akeal Hosein      1
dtype: int64
```

In [43]:
```
inning_runs = df.groupby(['striker', 'match_id'])['runs_of_bat'].sum().reset_index()
```

In [44]:
```
Centuries = inning_runs[inning_runs['runs_of_bat'] >= 100].groupby('striker').size()
```

In [45]:
```
Centuries.head()
```

Out[45]:
```
Series([], dtype: int64)
```

In [46]:
```
fifties = inning_runs[(inning_runs['runs_of_bat'] >= 50) & (inning_runs['runs_of_bat'] < 100)].groupby('striker
```

In [47]:
```
fifties.head()
```

Out[47]:

	striker	Fifties
0	Aaron Johnson	1
1	Aaron Jones	1
2	Buttler	1
3	Erasmus	1
4	Gous	2

In [48]:
```
highest_score = inning_runs.groupby('striker')['runs_of_bat'].max().reset_index(name='highest_score')
```

In [49]:
```
highest_score.head()
```

Out[49]:

	striker	highest_score
0	Aaron Johnson	52
1	Aaron Jones	94
2	Aasif Sheikh	42
3	Abbas Afridi	17
4	Abinash Bohara	0

In [50]:
```
wickets = df[df['wicket_type'].notna()].groupby('bowler').size().reset_index(name='total_wickets')
```

In [51]:
```
balls_bowled = df[(df['wide'] == 0) & (df['noballs'] == 0)].groupby('bowler').size().reset_index(name='balls_bo
```

In [52]:
```
bowling_stats = pd.merge(wickets, balls_bowled, on='bowler')
```

In [53]:
```
bowling_stats['strike_rate'] = bowling_stats['balls_bowled'] / bowling_stats['total_wickets']
```

In [54]:
```
bowling_stats[['bowler', 'balls_bowled', 'total_wickets', 'strike_rate']].head()
```

Out[54]:

	bowler	balls_bowled	total_wickets	strike_rate
0	Abbas Afridi	18	20	0.900000
1	Abinash Bohara	46	47	0.978723
2	Adil Rashid	168	175	0.960000
3	Agar	48	49	0.979592
4	Akeal Hosein	150	152	0.986842

In [55]:
```
bowling_stats['overs_bowled'] = bowling_stats['balls_bowled'] // 6 + (bowling_stats['balls_bowled'] % 6) / 6
```

In [58]:
```
df['total_runs_conceded'] = df['runs_of_bat'] + df['extras']
```

In [59]:
```
runs_conceded = df.groupby('bowler')['total_runs_conceded'].sum().reset_index(name='total_run_conceded')
```

In [60]:
```
bowling_stats = pd.merge(bowling_stats, runs_conceded, on='bowler')
```

In [61]:
```
bowling_stats['economy_rate'] = bowling_stats['total_run_conceded'] / bowling_stats['overs_bowled']
```

In [65]:
```
bowling_stats[['bowler', 'balls_bowled', 'overs_bowled', 'total_run_conceded', 'total_wickets', 'economy_rate']
```

Out[65]:

	bowler	balls_bowled	overs_bowled	total_run_conceded	total_wickets	economy_rate
0	Abbas Afridi	18	3.000000	32	20	10.666667
1	Abinash Bohara	46	7.666667	60	47	7.826087
2	Adil Rashid	168	28.000000	188	175	6.714286
3	Agar	48	8.000000	61	49	7.625000
4	Akeal Hosein	150	25.000000	142	152	5.680000

In [66]:
```
maidens = df.groupby(['bowler', 'over'])['runs_of_bat'].sum().reset_index().groupby('bowler').apply(lambda x: (
```

In [67]:
```
maidens.head()
```

Out[67]:

	bowler	maidens
0	Abbas Afridi	0
1	Abinash Bohara	0
2	Adil Rashid	0
3	Agar	0
4	Akeal Hosein	0

In [68]:
```
df.columns
```

Out[68]:
```
Index(['match_id', 'season', 'phase', 'match_no', 'date', 'venue',
       'batting_team', 'bowling_team', 'innings', 'over', 'Over_No.',
       'Ball_Faced', 'striker', 'bowler', 'runs_of_bat', 'extras', 'wide',
       'legbyes', 'byes', 'noballs', 'wicket_type', 'player_dismissed',
       'fielder', 'total_runs_conceded'],
      dtype='object')
```

In [69]:
```
df['wicket_type'].value_counts()
```

Out[69]:
```
wicket_type
caught          11564
bowled            139
lbw                75
runout             40
stumped            15
retired hurt        1
Name: count, dtype: int64
```

In [72]:
```
run_outs = df[df['wicket_type'] == 'run out'].groupby('fielder').size().reset_index(name='run_outs')
```

In [73]:
```
run_outs.head()
```

Out[73]:

	fielder	run_outs

In [74]:
```
catches = df[df['wicket_type'] == 'caught'].groupby('fielder').size().reset_index(name='catches_taken')
```

In [75]:
```
catches.head()
```

Out[75]:

	fielder	catches_taken
0	(sub) Milind Kumar	1
1	(sub)Charlie Tear	1
2	(sub)Dilpreet Bajwa	1
3	(sub)Mohammad Ishaq	1
4	(sub)Nangeyalia Kharote	1

In [68]:
```
bowled = df[df['wicket_type'] == 'bowled'].groupby('bowler').size().reset_index(name='bowled')
```

In [69]:
```
bowled.head()
```

Out[69]:

	bowler	bowled
0	Abinash Bohara	1
1	Adil Rashid	6
2	Agar	1
3	Akeal Hosein	3
4	Alei Nao	1

In [70]:
```
runs_by_team = df.groupby('batting_team')['runs_of_bat'].sum().reset_index()
```

In [71]:
```
runs_by_team.columns = ['Teams', 'Total Runs']
```

In [72]:
```
runs_by_team
```

Out[72]:

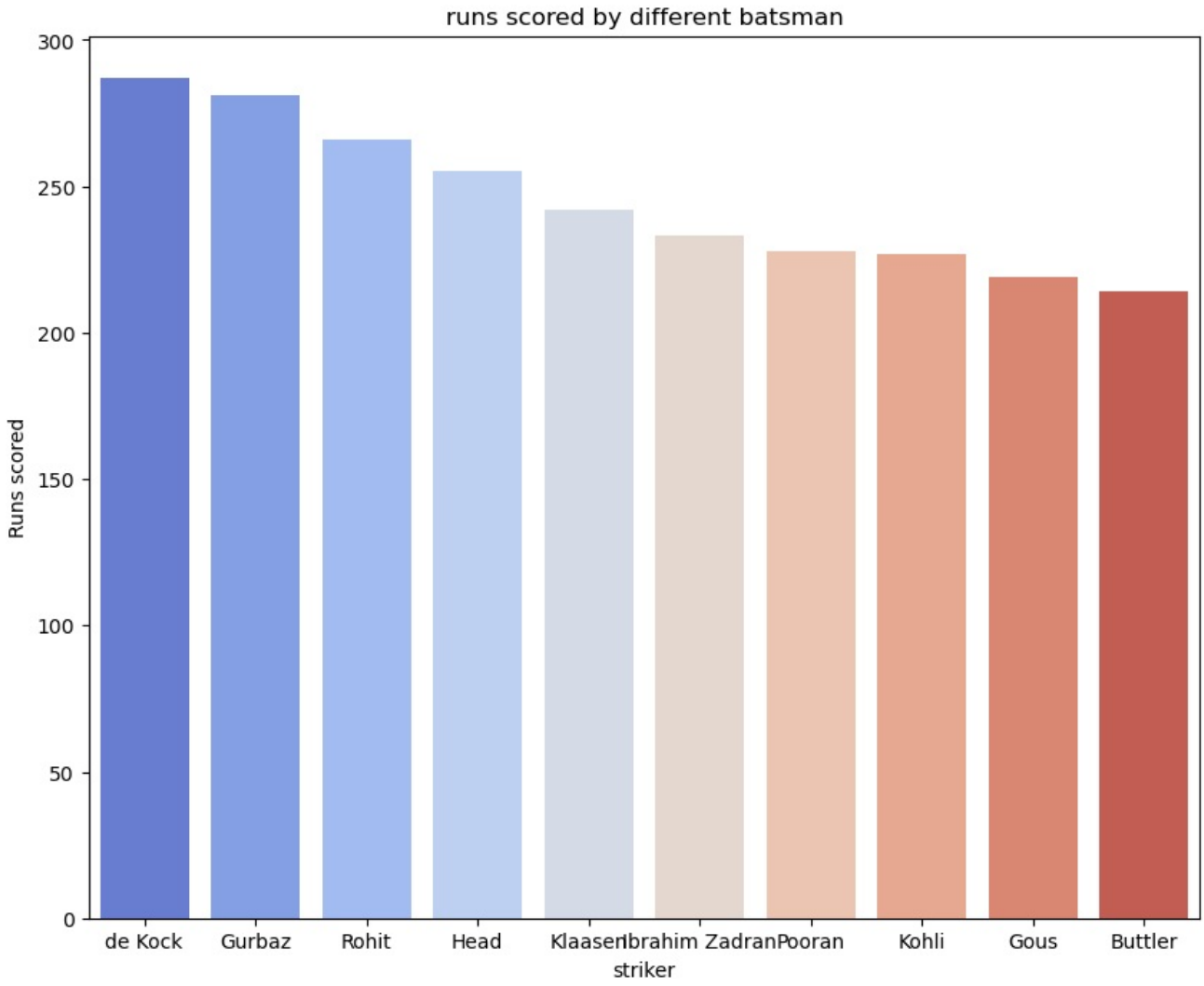
	Teams	Total Runs
0	AFG	965
1	AUS	981
2	BAN	819
3	CAN	409
4	ENG	856
5	IND	1370
6	IRE	293
7	NAM	409
8	NED	443
9	NEP	276
10	NZ	307
11	OMAN	417
12	PAK	467
13	PNG	328
14	RSA	1275
15	SCO	544
16	SL	384
17	UGA	178
18	USA	840
19	WI	1056

Visualizations

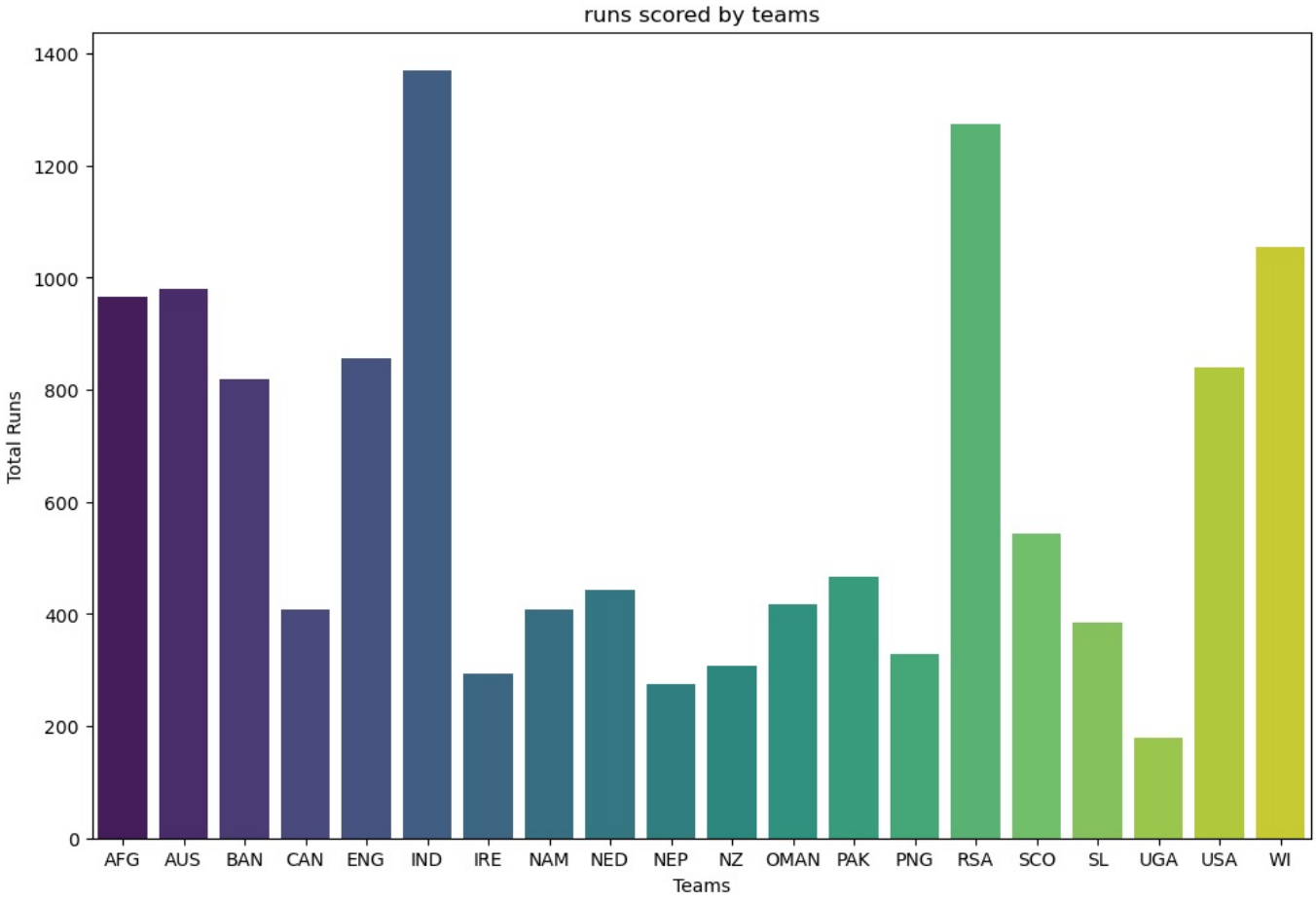
In [73]:
```
import matplotlib.pyplot as plt
import seaborn as sns
```

In [74]:
```
top_scorers = batting_stats.sort_values(by='runs_scored', ascending=False).head(10)
```

In [75]:
```
plt.figure(figsize=(10, 8))
sns.barplot(x='striker', y='runs_scored', data=top_scorers, palette = 'coolwarm')
plt.title("runs scored by different batsman")
plt.xlabel("striker")
plt.ylabel("Runs scored")
plt.show()
```

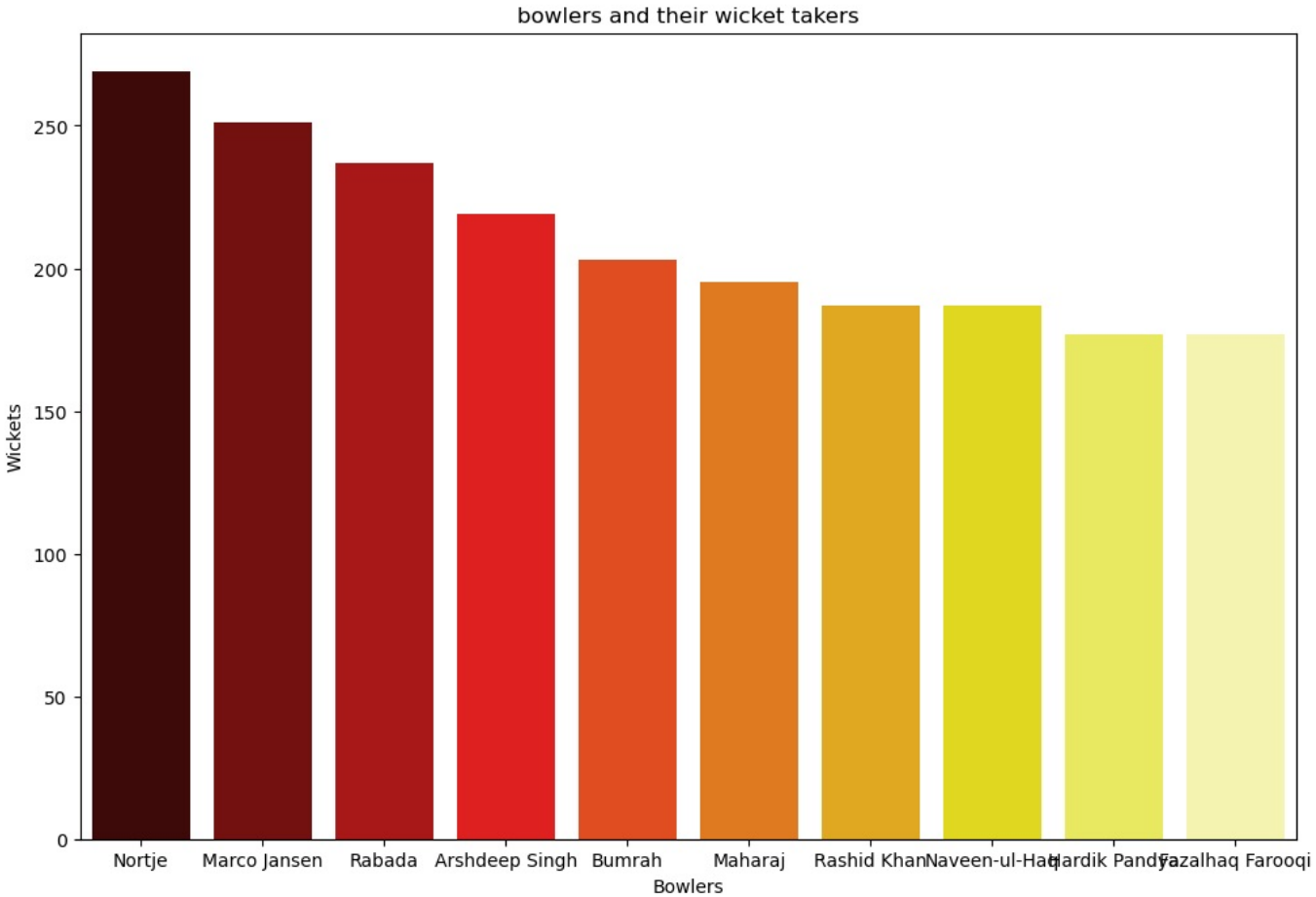


In [76]:
```
plt.figure(figsize=(12, 8))
sns.barplot(x='Teams', y='Total Runs', data=runs_by_team, palette = 'viridis')
plt.title("runs scored by teams")
plt.xlabel("Teams")
plt.ylabel("Total Runs")
plt.show()
```



In [79]:
```
top_10_wickets_takers = bowling_stats.sort_values(by='total_wickets', ascending=False).head(10)
```

In [83]:
```
plt.figure(figsize=(12, 8))
sns.barplot(x='bowler', y='total_wickets', data=top_10_wickets_takers, palette='hot')
plt.title("bowlers and their wicket takers")
plt.xlabel("Bowlers")
plt.ylabel("Wickets")
plt.show()
```



In [88]:
```
top_strike_rate = batting_stats.sort_values(by='strike_rate', ascending=False).head(10)
```

In [90]:
```
plt.figure(figsize=(12, 8))
sns.scatterplot(x='striker', y='strike_rate', data=top_strike_rate, palette='hot')
plt.title("strike rate of the top strikers")
plt.xlabel("striker")
plt.ylabel("strike_rate")
plt.show()
```

```
C:\Users\Nihira Khare\AppData\Local\Temp\ipykernel_5908\3797685671.py:2: UserWarning: Ignoring `palette` because no `hue` variable has been assigned.
  sns.scatterplot(x='striker', y='strike_rate', data=top_strike_rate, palette='hot')
```