```
In [223]: # This Python 3 environment comes with many helpful analytics libraries installed
           # It is defined by the kaggle/python Docker image: https://github.com/kaggle/docker-python
           # For example, here's several helpful packages to load
            import numpy as np # linear algebra
           import pandas as pd # data processing, CSV file I/O (e.g. pd.read_csv)
            # Input data files are available in the read-only "../input/" directory
           # For example, running this (by clicking run or pressing Shift+Enter) will list all files under the input directory
           import os
           for dirname, _, filenames in os.walk('/kaggle/input'):
                for filename in filenames:
                    print(os.path.join(dirname, filename))
            # You can write up to 5GB to the current directory (/kaggle/working/) that gets preserved as output when you create a version us
           ing "Save & Run All"
           # You can also write temporary files to /kaggle/temp/, but they won't be saved outside of the current session
           /kaggle/input/csk-vs-rr-match/matches.csv
           /kaggle/input/csk-vs-rr-match/deliveries.csv
In [224]: import pandas as pd
           import numpy as np
            df=pd.read_csv("../input/csk-vs-rr-match/deliveries.csv")
            df.head()
           df.info()
           import os
            print(os.listdir("../input"))
           <class 'pandas.core.frame.DataFrame'>
           RangeIndex: 179078 entries, 0 to 179077
           Data columns (total 21 columns):
                                    Non-Null Count Dtype
                 Column
                                     -----
                match_id
                                    179078 non-null int64
            1 inning
                                    179078 non-null int64
                                    179078 non-null object
               batting_team
                bowling_team
                                    179078 non-null object
                                    179078 non-null int64
                 ball
                                     179078 non-null int64
                                    179078 non-null object
                 batsman
                 non_striker
                                     179078 non-null object
                 bowler
                                     179078 non-null object
                 is_super_over
                                    179078 non-null int64
                wide_runs
                                    179078 non-null int64
                                     179078 non-null int64
                bye_runs
            12 legbye_runs
                                    179078 non-null int64
                                    179078 non-null int64
            13 noball_runs
            14 penalty_runs
                                    179078 non-null int64
            15 batsman_runs
                                     179078 non-null int64
                                    179078 non-null int64
            16 extra_runs
            17 total_runs
                                    179078 non-null int64
            18 player_dismissed
                                    8834 non-null
                                                       object
            19 dismissal_kind
                                                       object
                                     8834 non-null
                                    6448 non-null
            20 fielder
                                                       object
            dtypes: int64(13), object(8)
           memory usage: 28.7+ MB
            ['csk-vs-rr-match']
In [225]: df1=pd.read_csv("../input/csk-vs-rr-match/matches.csv")
            df1.info()
            <class 'pandas.core.frame.DataFrame'>
            RangeIndex: 756 entries, 0 to 755
           Data columns (total 18 columns):
                 Column
                                   Non-Null Count Dtype
                                   756 non-null
                                                     int64
                                   756 non-null
                                                     int64
                 season
                 city
                                                     object
                                   749 non-null
                                                     object
                                   756 non-null
                 date
                                                     object
                 team1
                                    756 non-null
                                                     object
                 team2
                                   756 non-null
                 toss_winner
                                   756 non-null
                                                     object
                                                     object
                 toss_decision
                                   756 non-null
                 result
                                                     object
                                   756 non-null
                                                     int64
                 dl_applied
                                   756 non-null
                 winner
                                   752 non-null
                                                     object
                                   756 non-null
                win_by_runs
                                                     int64
                win_by_wickets
                                   756 non-null
                                                     int64
            13 player_of_match 752 non-null
                                                     object
                venue
                                    756 non-null
                                                     object
            14
                umpire1
                                    754 non-null
                                                     object
                umpire2
                                    754 non-null
                                                     object
                umpire3
                                   119 non-null
                                                     object
            dtypes: int64(5), object(13)
           memory usage: 106.4+ KB
           QUES 1
In [226]: df2=df1[['id','team1','team2','winner','result','toss_winner','toss_decision','season']]
            df2.head()
Out[226]:
               id
                                    team1
                                                            team2
                                                                                    winner result
                                                                                                              toss_winner toss_decision season
                         Sunrisers Hyderabad Royal Challengers Bangalore
                                                                         Sunrisers Hyderabad normal Royal Challengers Bangalore
                                                                                                                                         2017
            0 1
                                                                                                                                   field
            1 2
                                                                       Rising Pune Supergiant normal
                                                                                                                                         2017
                             Mumbai Indians
                                               Rising Pune Supergiant
                                                                                                      Rising Pune Supergiant
                                                                                                                                   field
            2 3
                                                                         Kolkata Knight Riders normal
                                                                                                                                         2017
                               Gujarat Lions
                                                 Kolkata Knight Riders
                                                                                                        Kolkata Knight Riders
                                                                                                                                   field
                                                     Kings XI Punjab
                                                                             Kings XI Punjab normal
            3 4
                       Rising Pune Supergiant
                                                                                                            Kings XI Punjab
                                                                                                                                         2017
                                                                                                                                   field
                                                                                                                                         2017
            4 5 Royal Challengers Bangalore
                                                                   Royal Challengers Bangalore normal Royal Challengers Bangalore
                                                                                                                                   bat
In [227]: df3 = df2[(df2['team1']=='Chennai Super Kings') & (df2['team2'] == 'Rajasthan Royals') ]
           df3
Out[227]:
                    id
                                                                                        toss_winner toss_decision season
                                   team1
                                                  team2
                                                                   winner result
                   83 Chennai Super Kings Rajasthan Royals
                                                                                                                   2008
                                                           Rajasthan Royals normal Chennai Super Kings
                                                                                                             bat
                   117 Chennai Super Kings Rajasthan Royals
                                                           Rajasthan Royals normal
                                                                                                                   2008
                                                                                     Rajasthan Royals
                                                                                                            field
                                                                                                                   2009
                   137 Chennai Super Kings Rajasthan Royals Chennai Super Kings normal
                                                                                    Rajasthan Royals
            136
                                                                                                            field
                                                                                                                   2010
                   206 Chennai Super Kings Rajasthan Royals Chennai Super Kings normal Chennai Super Kings
                                                                                                             bat
                                                                                                                   2011
                   285 Chennai Super Kings Rajasthan Royals Chennai Super Kings normal
                                                                                    Rajasthan Royals
                                                                                                            field
            284
                                                                                                                   2013
                   442 Chennai Super Kings Rajasthan Royals
                                                           Rajasthan Royals normal
                                                                                    Rajasthan Royals
                                                                                                            field
                                                                                                                   2014
                   467 Chennai Super Kings Rajasthan Royals Chennai Super Kings normal
                                                                                    Rajasthan Royals
                                                                                                            field
                   533 Chennai Super Kings Rajasthan Royals
                                                           Rajasthan Royals normal Chennai Super Kings
                                                                                                                   2015
            532
                                                                                                             bat
                   563 Chennai Super Kings Rajasthan Royals Chennai Super Kings normal Chennai Super Kings
                                                                                                                   2015
                                                                                                             bat
                                                                                                                   2018
                       Chennai Super Kings Rajasthan Royals Chennai Super Kings normal
                                                                                                            field
                                                                                    Rajasthan Royals
                 7936 Chennai Super Kings Rajasthan Royals
                                                                                                                   2018
                                                           Rajasthan Royals normal Chennai Super Kings
                                                                                                             bat
                                                                                                            field
                                                                                                                   2019
            707 11148 Chennai Super Kings Rajasthan Royals Chennai Super Kings normal
                                                                                    Rajasthan Royals
In [228]: df4 = df2[(df2['team1']=='Rajasthan Royals') & (df2['team2'] == 'Chennai Super Kings')]
           df4
Out[228]:
                    id
                                team1
                                                  team2
                                                                   winner result
                                                                                        toss_winner toss_decision season
                   110 Rajasthan Royals Chennai Super Kings
                                                                                                                   2008
                                                            Rajasthan Royals normal
                                                                                     Rajasthan Royals
                                                                                                             bat
                                                                                                                   2009
                   152 Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                     Rajasthan Royals
                                                                                                             bat
                                                                                                                   2010
                   198 Rajasthan Royals Chennai Super Kings
                                                           Rajasthan Royals normal
                                                                                                             bat
            197
                                                                                     Rajasthan Royals
                                                                                                                   2011
                   276 Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                     Rajasthan Royals
                                                                                                             bat
                                                                                                                   2012
                   334 Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                     Rajasthan Royals
                                                                                                             bat
                       Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                 Chennai Super Kings
                                                                                                            field
                                                                                                                   2012
                   410 Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                                                   2013
                                                                                    Rajasthan Royals
                                                                                                             bat
                                                                                                                   2014
                       Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                    Rajasthan Royals
                                                                                                             bat
                                                                                                            field
                                                                                                                   2019
            720 11316 Rajasthan Royals Chennai Super Kings Chennai Super Kings normal Chennai Super Kings
           df5 = pd.concat([df3,df4], axis=0)
In [229]:
            df5
Out[229]:
                    id
                                                                      winner result
                                                                                           toss_winner toss_decision season
                                   team1
                                                     team2
                                            Rajasthan Royals
                    83 Chennai Super Kings
                                                                                                                      2008
                                                              Rajasthan Royals normal
                                                                                    Chennai Super Kings
                                                                                                               bat
            116
                   117 Chennai Super Kings
                                                                                                               field
                                                                                                                      2008
                                            Rajasthan Royals
                                                              Rajasthan Royals normal
                                                                                       Rajasthan Royals
                                                                                                                      2009
                   137 Chennai Super Kings
                                                                                                               field
                                            Rajasthan Royals Chennai Super Kings normal
                                                                                       Rajasthan Royals
                                            Rajasthan Royals Chennai Super Kings normal
                                                                                    Chennai Super Kings
                                                                                                                      2010
                   206 Chennai Super Kings
                                                                                                               bat
                                                                                                                      2011
                   285 Chennai Super Kings
                                            Rajasthan Royals Chennai Super Kings normal
                                                                                       Rajasthan Royals
                                                                                                               field
                                                              Rajasthan Royals normal
                                                                                                               field
                                                                                                                      2013
                   442 Chennai Super Kings
                                            Rajasthan Royals
                                                                                       Rajasthan Royals
                  467 Chennai Super Kings
                                            Rajasthan Royals Chennai Super Kings normal
                                                                                                               field
                                                                                      Rajasthan Royals
                   533 Chennai Super Kings
                                                              Rajasthan Royals normal Chennai Super Kings
                                                                                                                      2015
                                            Rajasthan Royals
                                                                                                                bat
                                                                                                                      2015
                                            Rajasthan Royals Chennai Super Kings normal Chennai Super Kings
                                                                                                               bat
            562
                   563 Chennai Super Kings
                                            Rajasthan Royals Chennai Super Kings normal
                                                                                                                      2018
                  7910 Chennai Super Kings
                                                                                       Rajasthan Royals
                                                                                                               field
                       Chennai Super Kings
                                                                                                                      2018
                                            Rajasthan Royals
                                                              Rajasthan Royals normal
                                                                                    Chennai Super Kings
                                                                                                                bat
                11148 Chennai Super Kings
                                                                                                                      2019
                                            Rajasthan Royals Chennai Super Kings normal
                                                                                       Rajasthan Royals
                                                                                                               field
                          Rajasthan Royals Chennai Super Kings
                   110
                                                                                       Rajasthan Royals
                                                                                                                      2008
            109
                                                              Rajasthan Royals normal
                                                                                                               bat
                                                                                                                      2009
            151
                   152
                          Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                       Rajasthan Royals
                                                                                                               bat
                                                                                                                      2010
            197
                   198
                          Rajasthan Royals Chennai Super Kings
                                                                                       Rajasthan Royals
                                                              Rajasthan Royals normal
                                                                                                               bat
                   276
                          Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                                                      2011
            275
                                                                                       Rajasthan Royals
                                                                                                               bat
            333
                   334
                          Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                                                      2012
                                                                                       Rajasthan Royals
                                                                                                               bat
                                                                                                                      2012
                   361
                                                                                    Chennai Super Kings
                                                                                                               field
            360
                          Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                          Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                   410
                                                                                                                      2013
            409
                                                                                       Rajasthan Royals
                                                                                                                bat
                                                                                                                      2014
            493
                   494
                          Rajasthan Royals Chennai Super Kings Chennai Super Kings normal
                                                                                       Rajasthan Royals
                                                                                                               bat
            720 11316
                          Rajasthan Royals Chennai Super Kings Chennai Super Kings normal Chennai Super Kings
                                                                                                               field
                                                                                                                      2019
In [230]:
           df5['winner'].value_counts()
           Chennai Super Kings
Out[230]:
                                    14
            Rajasthan Royals
           Name: winner, dtype: int64
In [231]: matches=df5['id'].nunique()
           matches
Out[231]: 21
In [232]: df5['winner'].value_counts(normalize=True)
           Chennai Super Kings
Out[232]:
                                     0.666667
            Rajasthan Royals
                                     0.333333
           Name: winner, dtype: float64
In [233]: matches_played=pd.concat([df1['team1'],df1['team2']])
            matches_played=matches_played.value_counts().reset_index()
            matches_played.columns=['Team','Total Matches']
            matches_played['wins']=df1['winner'].value_counts().reset_index()['winner']
            matches_played.set_index('Team',inplace=True)
           matches_played.reset_index().head(8)
Out[233]:
                                 Team Total Matches wins
                         Mumbai Indians
                                                187 109
            1 Royal Challengers Bangalore
                                                180
                                                     100
                     Kolkata Knight Riders
                                                178
                                                     92
                                               177
                           Delhi Capitals
                                                      84
                         Kings XI Punjab
                                                176
                                                      82
                                                      77
                     Chennai Super Kings
                                                164
            5
                                                147
                                                     75
                        Rajasthan Royals
                     Sunrisers Hyderabad
                                                108
                                                      58
            7
In [234]: win_percentage = round(matches_played['wins']/matches_played['Total Matches'],3)*100
            win_percentage.head(8)
Out[234]: Team
                                              58.3
           Mumbai Indians
           Royal Challengers Bangalore
                                             55.6
            Kolkata Knight Riders
                                              51.7
           Delhi Capitals
                                             47.5
           Kings XI Punjab
                                             46.6
           Chennai Super Kings
                                             47.0
            Rajasthan Royals
                                              51.0
           Sunrisers Hyderabad
                                              53.7
           dtype: float64
In [235]: df5 = df5[(df5['season'] > 2016)]
            df5
Out[235]:
                    id
                                                                                           toss_winner toss_decision season
                                   team1
                                                     team2
                                                                      winner result
                 7910 Chennai Super Kings
                                            Rajasthan Royals Chennai Super Kings normal
                                                                                                                      2018
                                                                                        Rajasthan Royals
                                                                                                               field
                 7936 Chennai Super Kings
                                                              Rajasthan Royals normal Chennai Super Kings
                                                                                                                      2018
                                            Rajasthan Royals
                                                                                                                bat
                                            Rajasthan Royals Chennai Super Kings normal
            707 11148 Chennai Super Kings
                                                                                                                      2019
                                                                                       Rajasthan Royals
                                                                                                               field
                                                                                                                      2019
            720 11316
                          Rajasthan Royals Chennai Super Kings Chennai Super Kings normal Chennai Super Kings
                                                                                                               field
           df5['winner'].value_counts()
In [236]:
Out[236]:
           Chennai Super Kings
                                     3
            Rajasthan Royals
           Name: winner, dtype: int64
In [237]: df5['winner'].value_counts(normalize=True)
Out[237]:
           Chennai Super Kings
                                     0.75
            Rajasthan Royals
                                     0.25
           Name: winner, dtype: float64
           QUES 2
In [238]: | df6= df[['match_id','bowling_team','batting_team','over','total_runs']]
            df6=df6[(df6['over'] < 7)]</pre>
           df6
Out[238]:
                    match_id
                                        bowling_team
                                                           batting_team over total_runs
                          1 Royal Challengers Bangalore Sunrisers Hyderabad
                 0
                          1 Royal Challengers Bangalore Sunrisers Hyderabad
                 1
                          1 Royal Challengers Bangalore Sunrisers Hyderabad
                 2
                 3
                          1 Royal Challengers Bangalore Sunrisers Hyderabad
                          1 Royal Challengers Bangalore Sunrisers Hyderabad
                 •••
                       11415
                                       Mumbai Indians Chennai Super Kings
            178986
            178987
                       11415
                                       Mumbai Indians Chennai Super Kings
                                       Mumbai Indians Chennai Super Kings
            178988
                       11415
            178989
                       11415
                                        Mumbai Indians Chennai Super Kings
                                       Mumbai Indians Chennai Super Kings
                      11415
            178990
            56566 rows × 5 columns
In [239]: df7=df6[(df6['bowling_team']=='Chennai Super Kings') & (df6['batting_team'] == 'Rajasthan Royals')]
           df7
Out[239]:
                                  bowling_team
                                                  batting_team over total_runs
                    match_id
                         83 Chennai Super Kings Rajasthan Royals
             19457
                         83 Chennai Super Kings Rajasthan Royals
             19458
                         83 Chennai Super Kings Rajasthan Royals
             19459
                         83 Chennai Super Kings Rajasthan Royals
             19460
                          83 Chennai Super Kings Rajasthan Royals
             19461
                       11316 Chennai Super Kings Rajasthan Royals
                                                                 6
            170616
            170617
                       11316 Chennai Super Kings Rajasthan Royals
                                                                 6
            170618
                       11316 Chennai Super Kings Rajasthan Royals
                                                                 6
                                                                 6
            170619
                       11316 Chennai Super Kings Rajasthan Royals
                       11316 Chennai Super Kings Rajasthan Royals
            170620
                                                                 6
           774 rows × 5 columns
In [240]:
           df8=df7.groupby('batting_team').agg({'total_runs':'sum'})
            df8
Out[240]:
                            total_runs
                batting_team
                                  957
            Rajasthan Royals
In [241]: total_runs_in_firstsix_overs=df7['total_runs'].sum()
In [242]: total_runs_in_firstsix_overs_per_match_for_RR=total_runs_in_firstsix_overs/matches
           total_runs_in_firstsix_overs_per_match_for_RR
Out[242]: 45.57142857142857
           QUES 3
In [243]: df9= df[['match_id','bowler','batting_team','bye_runs','legbye_runs','total_runs','ball']]
            df10=df9[(df9['batting_team']=='Rajasthan Royals') & (df9['bowler'] == 'DL Chahar')]
            df10
Out[243]:
                                bowler
                                         batting_team bye_runs legbye_runs total_runs ball
                    match_id
                       7910 DL Chahar Rajasthan Royals
            154358
                                                                                   2 1
            154359
                       7910 DL Chahar Rajasthan Royals
                                                             0
                                                                         0
                                                                                   1 2
                       7910 DL Chahar Rajasthan Royals
                                                                                   0 3
            154360
            154361
                       7910 DL Chahar Rajasthan Royals
                                                                         0
                                                                                       4
                       7910 DL Chahar Rajasthan Royals
                                                                         0
                                                                                   0
            154362
                                                             0
                                                                                       5
            170695
                       11316 DL Chahar Rajasthan Royals
                                                                                       2
                                                                                   0
                       11316 DL Chahar Rajasthan Royals
                                                                                   1 3
            170696
                                                             0
                       11316 DL Chahar Rajasthan Royals
            170697
            170698
                       11316 DL Chahar Rajasthan Royals
                                                                                   4 5
                       11316 DL Chahar Rajasthan Royals
                                                                                   1 6
            170699
                                                                         0
           77 rows × 7 columns
           df10['runs against bowler'] = df10['total runs'] - (df10['bye runs'] + df10['legbye runs'])
           df10
           /opt/conda/lib/python3.7/site-packages/ipykernel_launcher.py:1: SettingWithCopyWarning:
           A value is trying to be set on a copy of a slice from a DataFrame.
           Try using .loc[row_indexer,col_indexer] = value instead
           See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-ve
           rsus-a-copy
              """Entry point for launching an IPython kernel.
Out[244]:
                                          batting_team bye_runs legbye_runs total_runs ball runs against bowler
                    match_id
                                bowler
                        7910 DL Chahar Rajasthan Royals
            154358
                                                                                   2 1
                                                                                                          2
                       7910 DL Chahar Rajasthan Royals
                                                             0
                                                                         0
                                                                                       2
            154359
                       7910 DL Chahar Rajasthan Royals
            154360
                                                                                   0 3
                                                                                                          0
                       7910 DL Chahar Rajasthan Royals
            154361
                                                                         0
                                                                                   1 4
                       7910 DL Chahar Rajasthan Royals
            154362
                                                                         0
                                                                                   0 5
                                                                                                          0
                                                                                      • • • •
                       11316 DL Chahar Rajasthan Royals
                                                                                   0 2
            170695
                                                                                                          0
                       11316 DL Chahar Rajasthan Royals
                                                                                       3
            170696
            170697
                       11316 DL Chahar Rajasthan Royals
                                                                         0
                                                                                   1 4
                       11316 DL Chahar Rajasthan Royals
                                                                                   4 5
            170698
                       11316 DL Chahar Rajasthan Royals
                                                                                   1 6
            170699
           77 rows × 8 columns
           runs_against_chahar=df10['runs against bowler'].sum()
In [245]:
            runs_against_chahar
Out[245]: 88
In [246]: matches_for_chahar_against_RR=df10['match_id'].nunique()
           matches_for_chahar_against_RR
Out[246]: 3
In [247]: total_no_of_balls_bowled=df10['ball'].value_counts().sum()
            total_no_of_balls_bowled
Out[247]: 77
           economy_rate=(runs_against_chahar/total_no_of_balls_bowled)*6
In [248]:
            economy_rate
Out[248]: 6.857142857142857
           QUES 4
In [249]: | df11= df[['match_id','batting_team','bowler','player_dismissed','dismissal_kind']]
            df12=df11[(df11['bowler'] == 'J Archer') & (df11['batting team'] == 'Chennai Super Kings')]
            df12=df12.fillna(0)
In [250]: df12['player_dismissed'] = df12['player_dismissed'].apply(lambda x: 'NO WICKET' if x== 0 else 'WICKET')
           df12
Out[250]:
                    match_id
                                   batting_team bowler player_dismissed dismissal_kind
                        7936 Chennai Super Kings J Archer
            160451
                                                               WICKET
                                                                               bowled
            160452
                       7936 Chennai Super Kings J Archer
                                                            NO WICKET
                                                                                   0
                        7936 Chennai Super Kings J Archer
                                                            NO WICKET
            160453
                                                                                   0
                       7936 Chennai Super Kings J Archer
                                                            NO WICKET
            160454
                                                                                   0
            160455
                       7936 Chennai Super Kings J Archer
                                                            NO WICKET
                                                                                   0
                       11316 Chennai Super Kings J Archer
            170817
                                                            NO WICKET
                       11316 Chennai Super Kings J Archer
            170818
                                                            NO WICKET
                       11316 Chennai Super Kings J Archer
                                                            NO WICKET
            170819
                                                                                   0
            170820
                       11316 Chennai Super Kings J Archer
                                                            NO WICKET
            170821
                       11316 Chennai Super Kings J Archer
                                                            NO WICKET
                                                                                   0
           78 rows × 5 columns
In [251]: df12['player_dismissed'].value_counts()
```

Out[251]: NO WICKET

In [252]: *#from above*

Wickets=5

Out[252]: 1.666666666666667

df14

76418

76419

76421

76422

76425

170644

170645

170646

170648

170649

Out[254]: 197

Out[255]: 225

197 rows × 5 columns

total_no_of_balls_faced

totalruns_against_vsCSK

strikerate

Out[256]: 114.21319796954315

Out[253]:

wicket_per_match

QUES 5

match_id

WICKET

73

matches_for_Archer_vsCSK

Name: player_dismissed, dtype: int64

In []: matches_for_Archer_vsCSK=df12['match_id'].nunique()

matches_for_Archer_vsCSK=df12['match_id'].nunique()

In [253]: df13= df[['match_id','bowling_team','batsman','batsman_runs','ball']]

324 Chennai Super Kings SPD Smith

11316 Chennai Super Kings SPD Smith

In [254]: total_no_of_balls_faced=df14['ball'].value_counts().sum()

In [255]: totalruns_against_vsCSK=df14['batsman_runs'].sum()

In [256]: totalruns_against_vsCSK=df14['batsman_runs'].sum()

strikerate=(totalruns_against_vsCSK/total_no_of_balls_faced)*100

df14=df13[(df13['bowling_team']=='Chennai Super Kings') & (df13['batsman'] == 'SPD Smith')]

0 5

6 2

1

1

1 2

0 5

6

3

6

bowling_team batsman batsman_runs ball

wicket_per_match=Wickets/matches_for_Archer_vsCSK