T20

March 29, 2024

```
[1]: import pandas as pd
     import json
    C:\Users\LENOVO\anaconda3\lib\site-packages\pandas\compat\__init__.py:120:
    UserWarning: Could not import the lzma module. Your installed Python is
    incomplete. Attempting to use 1zma compression will result in a RuntimeError.
      warnings.warn(msg)
[2]: with open('t20_wc_match_results.json') as f:
         data1=json.load(f)
     df_match=pd.DataFrame(data1[0]['matchSummary'])
    df_match.head()
[3]:
              team1
                                                            ground
                                                                       matchDate \
                           team2
                                       winner
                                                   margin
            Namibia
                                                                    Oct 16, 2022
     0
                       Sri Lanka
                                      Namibia
                                                 55 runs
                                                           Geelong
     1
        Netherlands
                          U.A.E.
                                  Netherlands
                                               3 wickets
                                                           Geelong
                                                                    Oct 16, 2022
                                                                    Oct 17, 2022
     2
           Scotland West Indies
                                     Scotland
                                                 42 runs
                                                            Hobart
                                                                    Oct 17, 2022
     3
            Ireland
                        Zimbabwe
                                     Zimbabwe
                                                 31 runs
                                                            Hobart
     4
            Namibia
                    Netherlands Netherlands
                                              5 wickets
                                                           Geelong
                                                                   Oct 18, 2022
          scorecard
      T20I # 1823
     0
     1 T20I # 1825
     2 T20I # 1826
     3 T20I # 1828
     4 T20I # 1830
[4]: df_match.shape
[4]: (45, 7)
     df_match.rename({'scorecard':'match_id'}, axis=1,inplace=True)
[6]: df_match.to_csv('match_summary.csv',index=False)
    Batting Summary
```

```
[7]: with open('t20_wc_batting_summary.json') as f:
         data2=json.load(f)
         all_record=[]
         for rec in data2:
             all_record.extend(rec['battingSummary'])
     df_batting=pd.DataFrame(all_record)
    df_batting.head(11)
[8]:
                         match teamInnings
                                             battingPos
                                                                     batsmanName
         Namibia Vs Sri Lanka
                                    Namibia
                                                              Michael van Lingen
         Namibia Vs Sri Lanka
                                   Namibia
                                                       2
     1
                                                                   Divan la Cock
     2
         Namibia Vs Sri Lanka
                                   Namibia
                                                          Jan Nicol Loftie-Eaton
         Namibia Vs Sri Lanka
                                                       4
     3
                                   Namibia
                                                                   Stephan Baard
                                                       5
         Namibia Vs Sri Lanka
                                   Namibia
                                                              Gerhard Erasmus(c)
     5
         Namibia Vs Sri Lanka
                                   Namibia
                                                                    Jan Frylinck
         Namibia Vs Sri Lanka
                                   Namibia
                                                       7
                                                                     David Wiese
         Namibia Vs Sri Lanka
                                   Namibia
                                                                          JJ Smit
                                                       8
         Namibia Vs Sri Lanka
     8
                                 Sri Lanka
                                                       1
                                                                 Pathum Nissanka
         Namibia Vs Sri Lanka
                                                       2
     9
                                 Sri Lanka
                                                                   Kusal Mendis†
         Namibia Vs Sri Lanka
                                 Sri Lanka
                                                       3
                                                             Dhananjaya de Silva
                                dismissal runs balls 4s 6s
                                                                  SR
     0
            c Pramod Madushan b Chameera
                                                               50.00
     1
             c Shanaka b Pramod Madushan
                                              9
                                                    9
                                                       1
                                                           0
                                                              100.00
     2
                  c †Mendis b Karunaratne
                                             20
                                                   12
                                                       1
                                                           2
                                                              166.66
     3
         c DM de Silva b Pramod Madushan
                                             26
                                                   24
                                                       2
                                                              108.33
     4
            c Gunathilaka b PWH de Silva
                                             20
                                                       0
                                                           0
                                                               83.33
                                                   24
     5
           run out (Gunathilaka/†Mendis)
                                                   28
                                                       4
                                                          0
                                                              157.14
                                             44
     6
                   c †Mendis b Theekshana
                                              0
                                                    1
                                                       0
                                                          0
                                                                0.00
                                                       2
     7
                                             31
                                                   16
                                                              193.75
     8
                        c Smit b Shikongo
                                                   10
                                                       1
                                                               90.00
     9
                                              6
                                                    6
                                                              100.00
                         c †Green b Wiese
                                                       0
                                                          0
                    c Shikongo b Frylinck
                                                   11
                                                       1
                                                          0
                                                              109.09
[9]: df_batting["out/not_out"]=df_batting.dismissal.apply(lambda x: "out" if len(x) >__
      →0 else "not_out")
     df_batting
[9]:
                          match teamInnings
                                              battingPos
                                                                      batsmanName
     0
          Namibia Vs Sri Lanka
                                     Namibia
                                                        1
                                                               Michael van Lingen
          Namibia Vs Sri Lanka
     1
                                     Namibia
                                                                    Divan la Cock
          Namibia Vs Sri Lanka
                                     Namibia
                                                           Jan Nicol Loftie-Eaton
          Namibia Vs Sri Lanka
                                    Namibia
                                                        4
                                                                    Stephan Baard
```

4		Namibia Vs Sri Lanka N	Vamibia		5		Ger	hard Era	asmus(c)
6	94	Pakistan Vs England E	England		3			Pł	nil Salt
6	95	Pakistan Vs England E	England		4			Ber	n Stokes
6	96	Pakistan Vs England E	England		5			Harı	ry Brook
6	97	Pakistan Vs England E	England		6			Мо	een Ali
6	98	Pakistan Vs England E	England	7 Liam Livingstone					ingstone
			dismissal	runs	balls	4s	6s	SR	out/not_out
0		c Pramod Madushan b	Chameera	3	6	0	0	50.00	out
1		c Shanaka b Pramod	d Madushan	9	9	1	0	100.00	out
2		c †Mendis b Ka	arunaratne	20	12	1	2	166.66	out
3		c DM de Silva b Pramod	d Madushan	26	24	2	0	108.33	out
4		c Gunathilaka b PWF	H de Silva	20	24	0	0	83.33	out
	•								
6	94	c Iftikhar Ahmed b H	Haris Rauf	10	9	2	0	111.11	out
6	95			52	49	5	1	106.12	not_out
6	96	c Shaheen Shah Afridi b Sh	nadab Khan	20	23	1	0	86.95	out
6	97	b Moham	nmad Wasim	19	13	3	0	146.15	out
6	98			1	1	0	0	100.00	not_out

[699 rows x 11 columns]

```
[10]: df_batting.drop(columns=["dismissal"],inplace=True)
```

[11]: df_batting.head(11)

[11]:					match	teamInnings	battingPos	batsmanName	runs	\
	0	Namibia	۷s	Sri	Lanka	Namibia	1	Michael van Lingen	3	
	1	Namibia	۷s	Sri	Lanka	Namibia	2	Divan la Cock	9	
	2	Namibia	۷s	Sri	Lanka	Namibia	3	Jan Nicol Loftie-Eaton	20	
	3	Namibia	۷s	Sri	Lanka	Namibia	4	Stephan Baard	26	
	4	Namibia	۷s	Sri	Lanka	Namibia	5	Gerhard Erasmus(c)	20	
	5	Namibia	۷s	Sri	Lanka	Namibia	6	Jan Frylinck	44	
	6	Namibia	۷s	Sri	Lanka	Namibia	7	David Wiese	0	
	7	Namibia	۷s	Sri	Lanka	Namibia	8	JJ Smit	31	
	8	Namibia	۷s	Sri	Lanka	Sri Lanka	1	Pathum Nissanka	9	
	9	Namibia	۷s	Sri	Lanka	Sri Lanka	2	Kusal Mendis†	6	
	10	Namibia	۷s	Sri	Lanka	Sri Lanka	3	Dhananjaya de Silva	12	

	balls	4s	6s	SR	out/not_out
0	6	0	0	50.00	out
1	9	1	0	100.00	out
2	12	1	2	166.66	out
3	24	2	0	108.33	out
4	24	0	0	83.33	out
5	28	4	0	157.14	out

```
6
                 0 0
                         0.00
              1
                                       out
      7
                 2
             16
                       193.75
                                   not_out
      8
             10
                        90.00
                                       out
      9
              6
                 0
                       100.00
                                       out
      10
             11
                       109.09
                 1
                                       out
[12]: df_batting['batsmanName']=df_batting['batsmanName'].apply(lambda x: x.
       →replace('†',''))
      df_batting['batsmanName']=df_batting['batsmanName'].apply(lambda x: x.
       \rightarrowreplace('(c)',''))
[13]: df_batting.head(11)
[13]:
                          match teamInnings
                                               battingPos
                                                                        batsmanName runs
          Namibia Vs Sri Lanka
      0
                                     Namibia
                                                                Michael van Lingen
                                                                                        3
                                                         2
                                                                                        9
      1
          Namibia Vs Sri Lanka
                                     Namibia
                                                                      Divan la Cock
                                                         3
          Namibia Vs Sri Lanka
                                     Namibia
                                                            Jan Nicol Loftie-Eaton
                                                                                       20
      3
          Namibia Vs Sri Lanka
                                     Namibia
                                                         4
                                                                      Stephan Baard
                                                                                       26
      4
          Namibia Vs Sri Lanka
                                     Namibia
                                                         5
                                                                   Gerhard Erasmus
                                                                                       20
      5
          Namibia Vs Sri Lanka
                                     Namibia
                                                         6
                                                                       Jan Frylinck
                                                                                       44
          Namibia Vs Sri Lanka
                                     Namibia
                                                         7
                                                                        David Wiese
      6
                                                                                        0
      7
          Namibia Vs Sri Lanka
                                     Namibia
                                                         8
                                                                            JJ Smit
                                                                                       31
          Namibia Vs Sri Lanka
                                   Sri Lanka
                                                         1
                                                                                        9
      8
                                                                   Pathum Nissanka
          Namibia Vs Sri Lanka
                                   Sri Lanka
                                                         2
                                                                       Kusal Mendis
                                                                                        6
          Namibia Vs Sri Lanka
                                   Sri Lanka
                                                         3
                                                               Dhananjaya de Silva
         balls 4s 6s
                           SR out/not_out
      0
              6
                 0
                    0
                        50.00
                                       out
              9
                       100.00
      1
                 1
                    0
                                       out
      2
             12
                 1
                       166.66
                                       out
      3
             24
                 2
                       108.33
                    0
                                       out
      4
             24
                 0
                        83.33
                                       out
      5
                       157.14
             28
                 4
                    0
                                       out
      6
                 0
                    0
                         0.00
              1
                                       out
      7
             16
                 2
                    2
                       193.75
                                   not_out
      8
                        90.00
             10
                 1
                    0
                                       out
      9
              6
                 0
                       100.00
                                       out
      10
             11
                 1
                       109.09
                                        out
[14]: match_ids_dict={}
      for index, row in df_match.iterrows():
          key1=row['team1']+' Vs '+row['team2']
          key2=row['team2']+' Vs '+ row['team1']
          match_ids_dict[key1]=row["match_id"]
          match_ids_dict[key2]=row["match_id"]
```

match_ids_dict

```
[14]: {'Namibia Vs Sri Lanka': 'T20I # 1823',
       'Sri Lanka Vs Namibia': 'T20I # 1823',
       'Netherlands Vs U.A.E.': 'T20I # 1825',
       'U.A.E. Vs Netherlands': 'T20I # 1825',
       'Scotland Vs West Indies': 'T20I # 1826',
       'West Indies Vs Scotland': 'T20I # 1826',
       'Ireland Vs Zimbabwe': 'T20I # 1828',
       'Zimbabwe Vs Ireland': 'T20I # 1828',
       'Namibia Vs Netherlands': 'T20I # 1830',
       'Netherlands Vs Namibia': 'T20I # 1830',
       'Sri Lanka Vs U.A.E.': 'T20I # 1832',
       'U.A.E. Vs Sri Lanka': 'T20I # 1832',
       'Ireland Vs Scotland': 'T20I # 1833',
       'Scotland Vs Ireland': 'T20I # 1833',
       'West Indies Vs Zimbabwe': 'T20I # 1834',
       'Zimbabwe Vs West Indies': 'T20I # 1834',
       'Netherlands Vs Sri Lanka': 'T20I # 1835',
       'Sri Lanka Vs Netherlands': 'T20I # 1835',
       'Namibia Vs U.A.E.': 'T20I # 1836',
       'U.A.E. Vs Namibia': 'T20I # 1836',
       'Ireland Vs West Indies': 'T20I # 1837',
       'West Indies Vs Ireland': 'T20I # 1837',
       'Scotland Vs Zimbabwe': 'T20I # 1838',
       'Zimbabwe Vs Scotland': 'T20I # 1838',
       'Australia Vs New Zealand': 'T20I # 1839',
       'New Zealand Vs Australia': 'T20I # 1839',
       'Afghanistan Vs England': 'T20I # 1840',
       'England Vs Afghanistan': 'T20I # 1840',
       'Ireland Vs Sri Lanka': 'T20I # 1841',
       'Sri Lanka Vs Ireland': 'T20I # 1841',
       'India Vs Pakistan': 'T20I # 1842',
       'Pakistan Vs India': 'T20I # 1842',
       'Bangladesh Vs Netherlands': 'T20I # 1843',
       'Netherlands Vs Bangladesh': 'T20I # 1843',
       'South Africa Vs Zimbabwe': 'T20I # 1844',
       'Zimbabwe Vs South Africa': 'T20I # 1844',
       'Australia Vs Sri Lanka': 'T20I # 1845',
       'Sri Lanka Vs Australia': 'T20I # 1845',
       'England Vs Ireland': 'T20I # 1846',
       'Ireland Vs England': 'T20I # 1846',
       'Afghanistan Vs New Zealand': 'T20I # 1846a',
       'New Zealand Vs Afghanistan': 'T20I # 1846a',
       'Bangladesh Vs South Africa': 'T20I # 1847',
       'South Africa Vs Bangladesh': 'T20I # 1847',
```

```
'India Vs Netherlands': 'T20I # 1848',
'Netherlands Vs India': 'T20I # 1848',
'Pakistan Vs Zimbabwe': 'T20I # 1849',
'Zimbabwe Vs Pakistan': 'T20I # 1849',
'Afghanistan Vs Ireland': 'T20I # 1849a',
'Ireland Vs Afghanistan': 'T20I # 1849a',
'Australia Vs England': 'T20I # 1849b',
'England Vs Australia': 'T20I # 1849b',
'New Zealand Vs Sri Lanka': 'T20I # 1850',
'Sri Lanka Vs New Zealand': 'T20I # 1850',
'Bangladesh Vs Zimbabwe': 'T20I # 1851',
'Zimbabwe Vs Bangladesh': 'T20I # 1851',
'Netherlands Vs Pakistan': 'T20I # 1852',
'Pakistan Vs Netherlands': 'T20I # 1852',
'India Vs South Africa': 'T20I # 1853',
'South Africa Vs India': 'T20I # 1853',
'Australia Vs Ireland': 'T20I # 1855',
'Ireland Vs Australia': 'T20I # 1855',
'Afghanistan Vs Sri Lanka': 'T20I # 1856',
'Sri Lanka Vs Afghanistan': 'T20I # 1856',
'England Vs New Zealand': 'T20I # 1858',
'New Zealand Vs England': 'T20I # 1858',
'Netherlands Vs Zimbabwe': 'T20I # 1859',
'Zimbabwe Vs Netherlands': 'T20I # 1859',
'Bangladesh Vs India': 'T20I # 1860',
'India Vs Bangladesh': 'T20I # 1860',
'Pakistan Vs South Africa': 'T20I # 1861',
'South Africa Vs Pakistan': 'T20I # 1861',
'Ireland Vs New Zealand': 'T20I # 1862',
'New Zealand Vs Ireland': 'T20I # 1862',
'Australia Vs Afghanistan': 'T20I # 1864',
'Afghanistan Vs Australia': 'T20I # 1864',
'England Vs Sri Lanka': 'T20I # 1867',
'Sri Lanka Vs England': 'T20I # 1867',
'Netherlands Vs South Africa': 'T20I # 1871',
'South Africa Vs Netherlands': 'T20I # 1871',
'Bangladesh Vs Pakistan': 'T20I # 1872',
'Pakistan Vs Bangladesh': 'T20I # 1872',
'India Vs Zimbabwe': 'T20I # 1873',
'Zimbabwe Vs India': 'T20I # 1873',
'New Zealand Vs Pakistan': 'T20I # 1877',
'Pakistan Vs New Zealand': 'T20I # 1877',
'England Vs India': 'T20I # 1878',
'India Vs England': 'T20I # 1878',
'England Vs Pakistan': 'T20I # 1879',
'Pakistan Vs England': 'T20I # 1879'}
```

```
[15]: df_batting["match_id"]=df_batting["match"].map(match_ids_dict)
[16]: df_batting.head()
[16]:
                          match teamInnings
                                              battingPos
                                                                       batsmanName runs
                                                                Michael van Lingen
         Namibia Vs Sri Lanka
                                     Namibia
                                                        1
                                                                                        3
      1 Namibia Vs Sri Lanka
                                                        2
                                     Namibia
                                                                     Divan la Cock
                                                                                        9
      2 Namibia Vs Sri Lanka
                                                        3
                                     Namibia
                                                            Jan Nicol Loftie-Eaton
                                                                                       20
      3 Namibia Vs Sri Lanka
                                                        4
                                     Namibia
                                                                     Stephan Baard
                                                                                       26
      4 Namibia Vs Sri Lanka
                                     Namibia
                                                        5
                                                                   Gerhard Erasmus
                                                                                       20
        balls 4s 6s
                           SR out/not_out
                                                match_id
      0
             6
                0
                        50.00
                                       out
                                            T20I # 1823
                      100.00
             9
                1
                   0
      1
                                       out
                                            T20I # 1823
      2
            12
                   2
                1
                      166.66
                                       out
                                            T20I # 1823
      3
            24
                2
                   0
                                            T20I # 1823
                      108.33
                                       out
      4
            24
                0
                   0
                       83.33
                                       out
                                            T20I # 1823
      df_batting["mach_id"]=df_batting["match"].map(match_ids_dict)
      df_batting
[18]:
[18]:
                            match teamInnings
                                                 battingPos
                                                                          batsmanName
      0
            Namibia Vs Sri Lanka
                                       Namibia
                                                           1
                                                                  Michael van Lingen
      1
            Namibia Vs Sri Lanka
                                       Namibia
                                                           2
                                                                       Divan la Cock
            Namibia Vs Sri Lanka
      2
                                                           3
                                       Namibia
                                                              Jan Nicol Loftie-Eaton
      3
            Namibia Vs Sri Lanka
                                       Namibia
                                                           4
                                                                        Stephan Baard
                                                          5
      4
            Namibia Vs Sri Lanka
                                       Namibia
                                                                     Gerhard Erasmus
                                           . . .
      . .
      694
             Pakistan Vs England
                                                                            Phil Salt
                                       England
                                                          3
      695
             Pakistan Vs England
                                       England
                                                          4
                                                                           Ben Stokes
      696
             Pakistan Vs England
                                       England
                                                           5
                                                                          Harry Brook
                                                                            Moeen Ali
      697
             Pakistan Vs England
                                       England
                                                           6
                                                          7
      698
             Pakistan Vs England
                                       England
                                                                    Liam Livingstone
           runs balls 4s 6s
                                   SR out/not_out
                                                       match_id
                                                                      mach_id
                                                    T20I # 1823
      0
              3
                        0
                           0
                               50.00
                                              out
                                                                  T20I # 1823
      1
              9
                    9
                        1
                           0
                              100.00
                                                    T20I # 1823
                                                                  T20I # 1823
                                              out
                   12
      2
             20
                       1
                           2
                              166.66
                                                    T20I # 1823
                                                                  T20I # 1823
                                              out
      3
             26
                   24
                       2
                           0
                              108.33
                                              out
                                                    T20I # 1823
                                                                  T20I # 1823
      4
             20
                       0
                           0
                                                    T20I # 1823
                   24
                               83.33
                                                                  T20I # 1823
                                              out
                                  . . .
                                               . . .
                                                             . . .
                       2
                              111.11
      694
             10
                    9
                           0
                                              out
                                                    T20I # 1879
                                                                  T20I # 1879
      695
             52
                   49
                       5
                           1
                              106.12
                                                    T20I # 1879
                                          not_out
                                                                  T20I # 1879
      696
             20
                   23
                       1
                           0
                               86.95
                                                    T20I # 1879
                                                                  T20I # 1879
                                              out
                                                                  T20I # 1879
      697
             19
                   13
                       3
                           0
                              146.15
                                                    T20I # 1879
                                              out
      698
                           0
                                                    T20I # 1879
              1
                    1
                       0
                              100.00
                                                                  T20I # 1879
                                          not_out
```

```
[699 rows x 12 columns]
```

Bowling Summary

[19]: df_batting.to_csv('fact_batting_summary.csv',index=False)

```
[20]: with open('t20_wc_bowling_summary.json') as f:
          data3=json.load(f)
          all_bowling=[]
          for bowl in data3:
               all_bowling.extend(bowl['bowlingSummary'])
      df_bowling_summary=pd.DataFrame(all_bowling)
     df_bowling_summary.head(12)
[21]:
                            match bowlingTeam
                                                                   bowlerName overs
      0
           Namibia Vs Sri Lanka
                                     Sri Lanka
                                                          Maheesh Theekshana
      1
            Namibia Vs Sri Lanka
                                     Sri Lanka
                                                         Dushmantha Chameera
                                                                                   4
      2
           Namibia Vs Sri Lanka
                                                             Pramod Madushan
                                     Sri Lanka
      3
           Namibia Vs Sri Lanka
                                     Sri Lanka
                                                         Chamika Karunaratne
           Namibia Vs Sri Lanka
      4
                                     Sri Lanka
                                                 Wanindu Hasaranga de Silva
      5
           Namibia Vs Sri Lanka
                                       Namibia
                                                             Gerhard Erasmus
      6
           Namibia Vs Sri Lanka
                                       Namibia
                                                                 David Wiese
                                                                                   4
      7
           Namibia Vs Sri Lanka
                                       Namibia
                                                             Bernard Scholtz
                                                                                   4
      8
           Namibia Vs Sri Lanka
                                       Namibia
                                                                Ben Shikongo
                                                                                   3
      9
           Namibia Vs Sri Lanka
                                       Namibia
                                                                      JJ Smit
                                                                                   3
           Namibia Vs Sri Lanka
                                       Namibia
                                                                Jan Frylinck
      10
                                                                                   4
      11 U.A.E. Vs Netherlands Netherlands
                                                               Fred Klaassen
                                                                                   4
         maiden runs wickets economy
                                        Os 4s 6s wides noBalls
      0
               0
                   23
                                  5.75
                                             0
                                                0
                                                       2
                                                               0
                             1
               0
                   39
                                  9.75
                                             3
                                                       2
                                                               0
      1
                             1
                                          6
                                                1
      2
               0
                   37
                             2
                                  9.25
                                          6
                                             3
                                                1
                                                       0
                                                               0
      3
               0
                                  9.00
                                          7
                                             3
                                                               0
                   36
                             1
                                                1
                                                       1
      4
               0
                   27
                             1
                                  6.75
                                                1
                                                       0
                                                               0
                                          8
                                             1
      5
               0
                    8
                             0
                                  8.00
                                          1
                                             1
                                                       0
                                                               0
      6
               0
                             2
                   16
                                  4.00
                                         13
                                                       0
                                                               0
      7
               0
                   18
                             2
                                  4.50
                                         10
                                             1
                                                0
                                                       0
                                                               0
      8
               1
                   22
                             2
                                  7.33
                                          6
                                             3
                                                       0
                                                               0
                                                0
               0
                                  5.33
      9
                   16
                             1
                                          7
                                             0
                                                0
                                                       1
                                                               0
      10
               0
                   26
                             2
                                  6.50
                                         10
                                             0
                                                2
                                                       1
                                                               0
               0
                             2
                                  3.25
                                                       3
                                                               0
      11
                   13
                                         18
                                             0
[22]: df_bowling_summary["match_id"]=df_bowling_summary["match"].map(match_ids_dict)
```

```
[23]: df_bowling_summary
ſ231:
                            match bowlingTeam
                                                                  bowlerName overs
      0
           Namibia Vs Sri Lanka
                                     Sri Lanka
                                                         Maheesh Theekshana
      1
           Namibia Vs Sri Lanka
                                     Sri Lanka
                                                        Dushmantha Chameera
                                                                                  4
      2
           Namibia Vs Sri Lanka
                                                            Pramod Madushan
                                                                                  4
                                     Sri Lanka
            Namibia Vs Sri Lanka
      3
                                                        Chamika Karunaratne
                                                                                  4
                                     Sri Lanka
            Namibia Vs Sri Lanka
      4
                                     Sri Lanka
                                                Wanindu Hasaranga de Silva
                                                                                  4
                                           . . .
      495
            Pakistan Vs England
                                                                 Naseem Shah
                                                                                  4
                                      Pakistan
      496
                                                                                  4
             Pakistan Vs England
                                      Pakistan
                                                                  Haris Rauf
                                      Pakistan
      497
             Pakistan Vs England
                                                                 Shadab Khan
                                                                                  4
      498
             Pakistan Vs England
                                                              Mohammad Wasim
                                                                                  4
                                      Pakistan
      499
             Pakistan Vs England
                                      Pakistan
                                                              Iftikhar Ahmed
                                                                                0.5
          maiden runs wickets economy
                                          Os 4s 6s wides noBalls
                                                                       match_id
      0
                    23
                                   5.75
                                           7
                                              0
                                                                    T20I # 1823
      1
                0
                    39
                              1
                                   9.75
                                           6
                                              3
                                                        2
                                                                    T20I # 1823
                                   9.25
                                              3
                                                  1
                                                                    T20I # 1823
      2
                0
                    37
                              2
                                           6
                                                        0
      3
                0
                    36
                              1
                                   9.00
                                           7
                                              3
                                                  1
                                                        1
                                                                    T20I # 1823
                                                                    T20I # 1823
      4
                                                 1
                                                        0
                0
                    27
                              1
                                   6.75
                                              1
                                           8
                                     . . .
      . .
              . . .
                    . . .
                                                      . . .
                            . . .
      495
                              0
                                   7.50
                                                  1
                                                                    T20I # 1879
                0
                    30
                                          15
                                              3
                                                        1
      496
                0
                    23
                              2
                                   5.75
                                          13
                                              3
                                                 0
                                                                    T20I # 1879
                                                        1
      497
                0
                    20
                              1
                                   5.00
                                          10
                                              1
                                                  0
                                                        0
                                                                    T20I # 1879
      498
                0
                                   9.50
                                           5
                                              5
                                                  0
                                                        2
                                                                    T20I # 1879
                    38
                              1
      499
                0
                    13
                                  15.60
                                           0
                                              1
                                                 1
                                                        0
                                                                    T20I # 1879
      [500 rows x 14 columns]
[24]: df_bowling_summary.to_csv('fact_bowling_summary.csv',index=False)
[25]: with open('t20_wc_player_info.json') as f:
          data4=json.load(f)
      df_player_info=pd.DataFrame(data4)
[26]:
      df_player_info
[26]:
                                                       battingStyle
                               name
                                              team
      0
                Michael van Lingen
                                           Namibia
                                                      Left hand Bat
      1
                     Divan la Cock
                                           Namibia
                                                     Right hand Bat
      2
                                                      Left hand Bat
            Jan Nicol Loftie-Eaton
                                           Namibia
      3
                     Stephan Baard
                                           Namibia
                                                     Right hand Bat
      4
                Gerhard Erasmus(c)
                                           Namibia
                                                     Right hand Bat
      214
                    Tabraiz Shamsi
                                     South Africa
                                                     Right hand Bat
                                                     Right hand Bat
      215
                          Phil Salt
                                           England
```

```
Chris Jordan
                                         England
                                                  Right hand Bat
      217
               Regis Chakabva(c)†
                                        Zimbabwe
                                                  Right hand Bat
      218
               Mehidy Hasan Miraz
                                      Bangladesh
                                                  Right hand Bat
                          bowlingStyle
                                                playingRole
      0
                      Left arm Medium
                                         Bowling Allrounder
      1
                                             Opening Batter
                              Legbreak
      2
           Right arm Medium, Legbreak
                                                      Batter
      3
                Right arm Medium fast
                                                      Batter
                   Right arm Offbreak
      4
                                                  Allrounder
      . .
                  Left arm Wrist spin
      214
                                                      Bowler
      215
                   Right arm Offbreak
                                        Wicketkeeper Batter
      216
                Right arm Fast medium
                                                      Bowler
      217
                   Right arm Offbreak
                                        Wicketkeeper Batter
      218
                   Right arm Offbreak
                                                  Allrounder
                                                   description
      0
      1
      2
      3
      4
           A left-arm wristspin bowler with ample variati...
          Phil Salt's fearless ball-striking at the top ...
           Chris Jordan, a fast bowler with a level-heade...
      216
           A doughty wicketkeeper-batsman, Regis Chakabva...
      217
           Mehedi Hasan Miraz has emerged as one of the b...
      [219 rows x 6 columns]
[27]: df_player_info['name']=df_player_info['name'].apply(lambda x: x.replace('†',''))
      df_player_info['name'] = df_player_info['name'].apply(lambda x: x.
       →replace('(c)',''))
[28]: df_player_info
[28]:
                                            team
                                                     battingStyle
                              name
      0
                                                    Left hand Bat
               Michael van Lingen
                                         Namibia
      1
                    Divan la Cock
                                         Namibia Right hand Bat
      2
           Jan Nicol Loftie-Eaton
                                         Namibia
                                                    Left hand Bat
      3
                    Stephan Baard
                                         Namibia Right hand Bat
      4
                  Gerhard Erasmus
                                         Namibia Right hand Bat
      214
                   Tabraiz Shamsi
                                    South Africa
                                                  Right hand Bat
      215
                        Phil Salt
                                         England
                                                  Right hand Bat
```

216

```
Chris Jordan
                                                   Right hand Bat
                                          England
      217
                                         Zimbabwe
                                                   Right hand Bat
                    Regis Chakabva
      218
               Mehidy Hasan Miraz
                                      Bangladesh
                                                   Right hand Bat
                          bowlingStyle
                                                 playingRole
      0
                       Left arm Medium
                                          Bowling Allrounder
      1
                              Legbreak
                                              Opening Batter
      2
           Right arm Medium, Legbreak
                                                      Batter
      3
                Right arm Medium fast
                                                      Batter
      4
                    Right arm Offbreak
                                                  Allrounder
      . .
      214
                  Left arm Wrist spin
                                                      Bowler
      215
                    Right arm Offbreak
                                        Wicketkeeper Batter
      216
                Right arm Fast medium
                                                      Bowler
      217
                    Right arm Offbreak
                                        Wicketkeeper Batter
      218
                    Right arm Offbreak
                                                  Allrounder
                                                   description
      0
      1
      2
      3
      4
           A left-arm wristspin bowler with ample variati...
           Phil Salt's fearless ball-striking at the top ...
      216
           Chris Jordan, a fast bowler with a level-heade...
           A doughty wicketkeeper-batsman, Regis Chakabva...
      217
           Mehedi Hasan Miraz has emerged as one of the b...
      [219 rows x 6 columns]
[29]:
     df_player_info.drop(columns='description',inplace=True)
[30]: df_player_info.head(12)
[30]:
                             name
                                        team
                                                 battingStyle
      0
              Michael van Lingen
                                     Namibia
                                                Left hand Bat
      1
                    Divan la Cock
                                     Namibia
                                               Right hand Bat
      2
          Jan Nicol Loftie-Eaton
                                     Namibia
                                                Left hand Bat
      3
                    Stephan Baard
                                     Namibia
                                               Right hand Bat
      4
                 Gerhard Erasmus
                                     Namibia
                                               Right hand Bat
      5
                     Jan Frylinck
                                     Namibia
                                                Left hand Bat
                      David Wiese
                                     Namibia Right hand Bat
      6
      7
                          J.J. Smit.
                                     Namibia
                                              Right hand Bat
      8
                 Pathum Nissanka
                                               Right hand Bat
                                  Sri Lanka
      9
                     Kusal Mendis
                                   Sri Lanka
                                              Right hand Bat
```

216

```
10
       Dhananjaya de Silva Sri Lanka
                                       Right hand Bat
11
      Danushka Gunathilaka Sri Lanka
                                         Left hand Bat
                  bowlingStyle
                                         playingRole
0
               Left arm Medium
                                  Bowling Allrounder
1
                      Legbreak
                                      Opening Batter
2
    Right arm Medium, Legbreak
                                              Batter
3
         Right arm Medium fast
                                              Batter
4
            Right arm Offbreak
                                          Allrounder
5
          Left arm Fast medium
                                          Allrounder
         Right arm Medium fast
6
                                          Allrounder
7
          Left arm Medium fast
                                  Bowling Allrounder
8
                                    Top order Batter
9
                      Legbreak
                                 Wicketkeeper Batter
10
            Right arm Offbreak
                                          Allrounder
11
            Right arm Offbreak
                                          Allrounder
```

[31]: df_player_info.to_csv('fact_player_info.csv',index=True)