CASE STUDY - IPL

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

In [2]:
```
ipl18 = pd.DataFrame(
    {
        'Team': ['SRH', 'CSK', 'KKR', 'RR', 'MI', 'RCB', 'KXIP', 'DD'],
        'Matches': [14, 14, 14, 14, 14, 14, 14, 14],
        'Won': [9, 9, 8, 7, 6, 6, 6, 5],
        'Lost': [5, 5, 6, 7, 8, 8, 8, 9],
        'Tied': [0, 0, 0, 0, 0, 0, 0, 0],
        'N/R': [0, 0, 0, 0, 0, 0, 0, 0],
        'Points': [18, 18, 16, 14, 12, 12, 12, 10],
        'NRR': [0.284, 0.253, -0.070, -0.250, 0.317, 0.129, -0.502, -0.222],
        'For': [2230, 2488, 2363, 2130, 2380, 2322, 2210, 2297],
        'Against': [2193, 2433, 2425, 2141, 2282, 2383, 2259, 2304]
    },
    index=range(1, 9))

ipl18
```

Out[2]:

	Team	Matches	Won	Lost	Tied	N/R	Points	NRR	For	Against
1	SRH	14	9	5	0	0	18	0.284	2230	2193
2	CSK	14	9	5	0	0	18	0.253	2488	2433
3	KKR	14	8	6	0	0	16	-0.070	2363	2425
4	RR	14	7	7	0	0	14	-0.250	2130	2141
5	MI	14	6	8	0	0	12	0.317	2380	2282
6	RCB	14	6	8	0	0	12	0.129	2322	2383
7	KXIP	14	6	8	0	0	12	-0.502	2210	2259
8	DD	14	5	9	0	0	10	-0.222	2297	2304

In [3]:
```
ipl17 = pd.DataFrame({'Team': ['MI', 'RPS', 'SRH', 'KKR', 'KXIP', 'DD', 'GL', 'RCB'],
                      'Matches': [14, 14, 14, 14, 14, 14, 14, 14],
                      'Won': [10, 9, 8, 8, 7, 6, 4, 3],
                      'Lost': [4, 5, 5, 6, 7, 8, 10, 10],
                      'Tied': [0, 0, 0, 0, 0, 0, 0, 0],
                      'N/R': [0, 0, 1, 0, 0, 0, 0, 1],
                      'Points': [20, 18, 17, 16, 14, 12, 8, 7],
                      'NRR': [0.784, 0.176, 0.469, 0.641, 0.123, -0.512, -0.412,
                      'For': [2407, 2180, 2221, 2329, 2207, 2219, 2406, 1845],
                      'Against': [2242, 2165, 2118, 2300, 2229, 2255, 2472, 2033]
                      index = range(1,9)
                    )

ipl17
```

Out[3]:

	Team	Matches	Won	Lost	Tied	N/R	Points	NRR	For	Against
1	MI	14	10	4	0	0	20	0.784	2407	2242

	Team	Matches	Won	Lost	Tied	N/R	Points	NRR	For	Against
2	RPS	14	9	5	0	0	18	0.176	2180	2165
3	SRH	14	8	5	0	1	17	0.469	2221	2118
4	KKR	14	8	6	0	0	16	0.641	2329	2300
5	KXIP	14	7	7	0	0	14	0.123	2207	2229
6	DD	14	6	8	0	0	12	-0.512	2219	2255
7	GL	14	4	10	0	0	8	-0.412	2406	2472
8	RCB	14	3	10	0	1	7	-1.299	1845	2033

Question-1: Suppose in 'ipl18', you want to filter out the teams that have an NRR greater than zero, and for which the 'For' score exceeds the 'Against' score, i.e. both the conditions should be satisfied. Which teams will be left after you perform the above filtration?

a) CSK, MI b) SRH,CSK, MI c) SRH,CSK, RCB d) SRK,CSK, MI,RCB

In [7]:
```
ipl18[(ipl18["NRR"]>0)&(ipl18["For"]>ipl18["Against"])]
```

Out[7]:

	Team	Matches	Won	Lost	Tied	N/R	Points	NRR	For	Against
1	SRH	14	9	5	0	0	18	0.284	2230	2193
2	CSK	14	9	5	0	0	18	0.253	2488	2433
5	MI	14	6	8	0	0	12	0.317	2380	2282

Answer-1: b) SRH,CSK, MI

Question-2: If all the stats are taken for both 'ipl17' and 'ipl18', which team with its total points greater than 25 will have the highest win percentage?

In [8]:
```
a=ipl17.append(ipl18)
a
```

Out[8]:

	Team	Matches	Won	Lost	Tied	N/R	Points	NRR	For	Against
1	MI	14	10	4	0	0	20	0.784	2407	2242
2	RPS	14	9	5	0	0	18	0.176	2180	2165
3	SRH	14	8	5	0	1	17	0.469	2221	2118
4	KKR	14	8	6	0	0	16	0.641	2329	2300
5	KXIP	14	7	7	0	0	14	0.123	2207	2229
6	DD	14	6	8	0	0	12	-0.512	2219	2255
7	GL	14	4	10	0	0	8	-0.412	2406	2472
8	RCB	14	3	10	0	1	7	-1.299	1845	2033
1	SRH	14	9	5	0	0	18	0.284	2230	2193
2	CSK	14	9	5	0	0	18	0.253	2488	2433
3	KKR	14	8	6	0	0	16	-0.070	2363	2425

	Team	Matches	Won	Lost	Tied	N/R	Points	NRR	For	Against
4	RR	14	7	7	0	0	14	-0.250	2130	2141
5	MI	14	6	8	0	0	12	0.317	2380	2282
6	RCB	14	6	8	0	0	12	0.129	2322	2383
7	KXIP	14	6	8	0	0	12	-0.502	2210	2259
8	DD	14	5	9	0	0	10	-0.222	2297	2304

In [10]:

```
b=a[["Team","Won","Lost"]].groupby(["Team"]).sum()
b.sort_values(by=["Won"], inplace=True, ascending=False)
(b["Won"]/(b["Won"]+b["Lost"]))*100
c=b[b["Won"]+b["Lost"]>25]
result=(c["Won"]/(c["Won"]+c["Lost"]))*100
result
```

Out[10]:

```
Team
SRH     62.962963
KKR     57.142857
MI      57.142857
KXIP    46.428571
DD      39.285714
RCB     33.333333
dtype: float64
```

Answer-2: SRH has the highest win percentage with its total points greater than 25