In [21]:
```
main()
```

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================================================================================
                          1. Match Stats since year 2010
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Fig 1.1 - Innings Team

	team	batting	total	won	lost
0	australia	1st	109	63	46
1	australia	2nd	75	47	28
2	india	1st	90	55	35
3	india	2nd	127	89	38

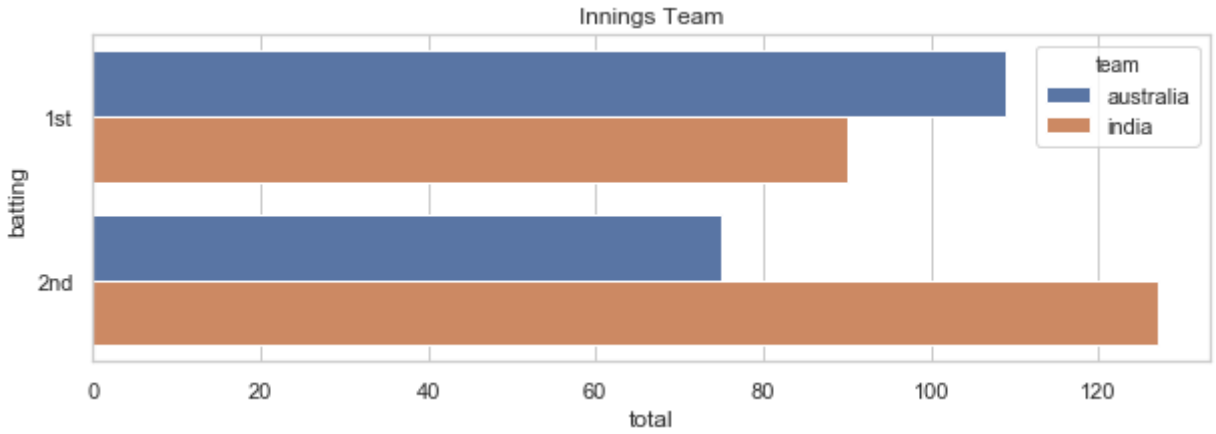
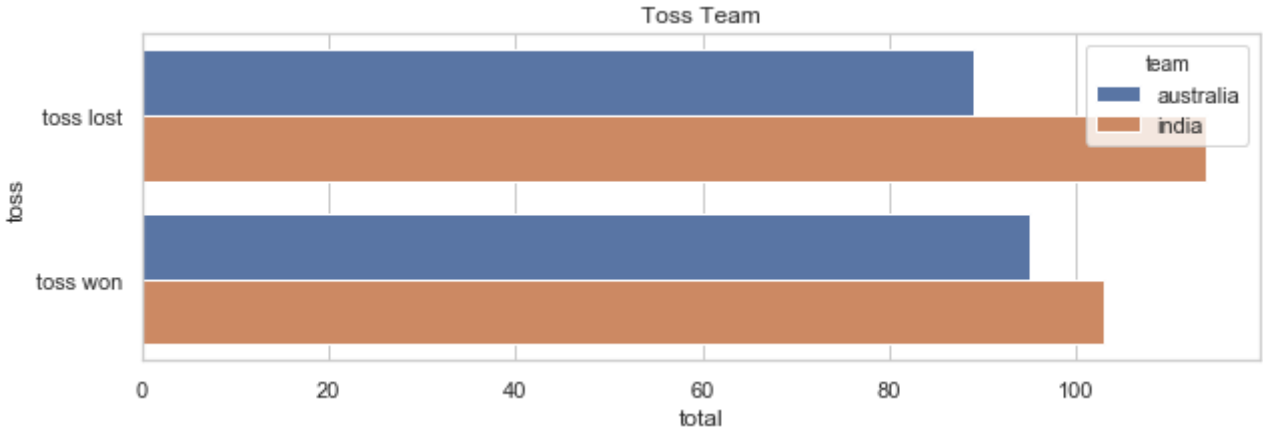


Fig 1.2 - Toss Team

	team	toss	total	won	lost
0	australia	toss lost	89	59	30
1	australia	toss won	95	51	44
2	india	toss lost	114	70	44
3	india	toss won	103	74	29

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                          2. Team Stats since year 2010
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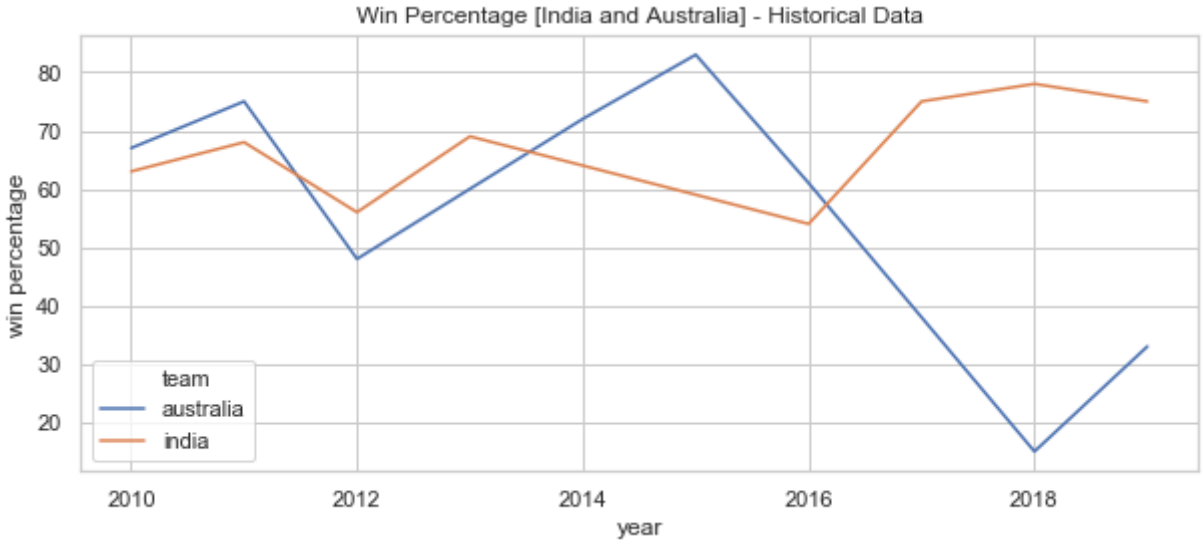
Fig 2.1 - Win Percentage [India and Australia] - Historical Data

	year	team	won	lost	win percentage
0	2010	australia	16	8	67
1	2010	india	17	10	63
2	2011	australia	18	6	75
3	2011	india	21	10	68
4	2012	australia	11	12	48
5	2012	india	9	7	56
6	2013	australia	12	8	60
7	2013	india	22	10	69
8	2014	australia	13	5	72
9	2014	india	14	8	64
10	2015	australia	15	3	83
11	2015	india	13	9	59
12	2016	australia	17	11	61
13	2016	india	7	6	54
14	2017	australia	5	8	38
15	2017	india	21	7	75
16	2018	australia	2	11	15
17	2018	india	14	4	78
18	2019	australia	1	2	33
19	2019	india	6	2	75



	team	won	lost	win percentage
0	australia	110	74	60
1	india	144	73	66

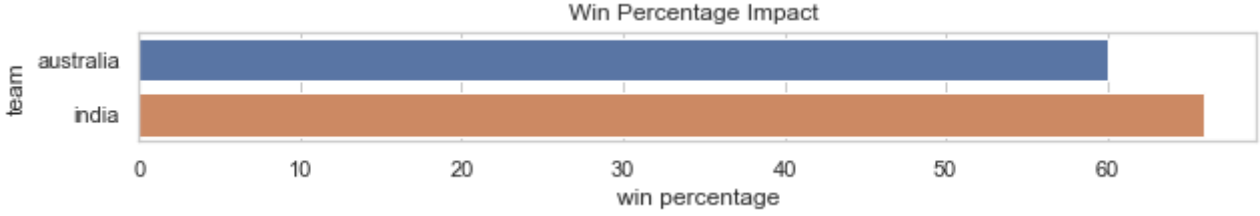


Fig 2.2 - Win Percentage [India vs Australia]

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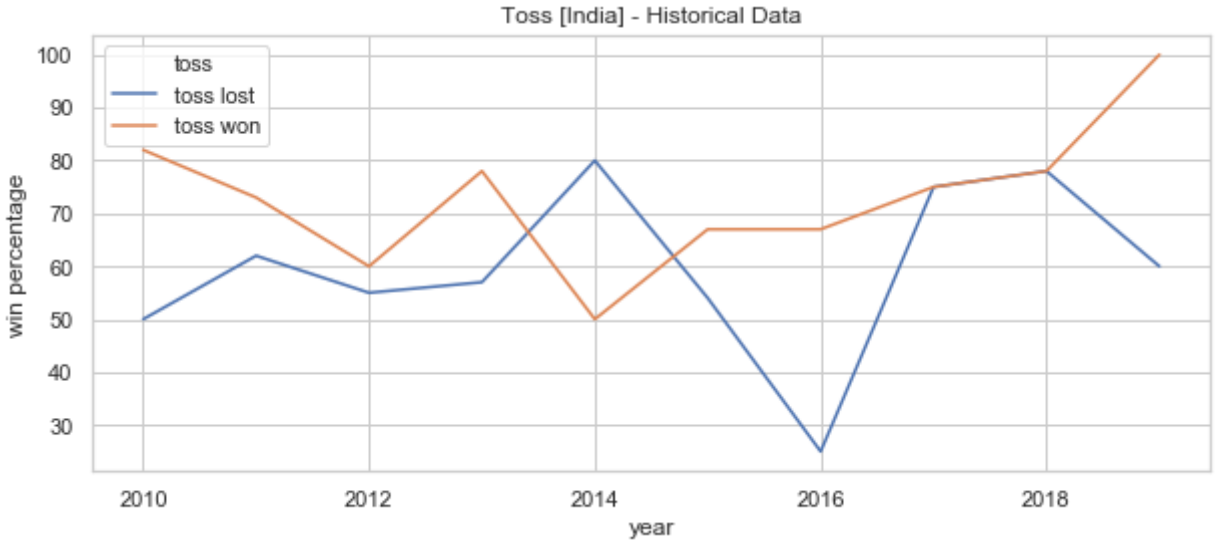
	year	toss	won	lost	win percentage
0	2010	toss lost	8	8	50
1	2010	toss won	9	2	82
2	2011	toss lost	10	6	62
3	2011	toss won	11	4	73
4	2012	toss lost	6	5	55
5	2012	toss won	3	2	60
6	2013	toss lost	8	6	57
7	2013	toss won	14	4	78
8	2014	toss lost	8	2	80
9	2014	toss won	6	6	50
10	2015	toss lost	7	6	54
11	2015	toss won	6	3	67
12	2016	toss lost	1	3	25
13	2016	toss won	6	3	67
14	2017	toss lost	12	4	75
15	2017	toss won	9	3	75
16	2018	toss lost	7	2	78
17	2018	toss won	7	2	78
18	2019	toss lost	3	2	60
19	2019	toss won	3	0	100



	toss	won	lost	win percentage
0	toss lost	70	44	61
1	toss won	74	29	72

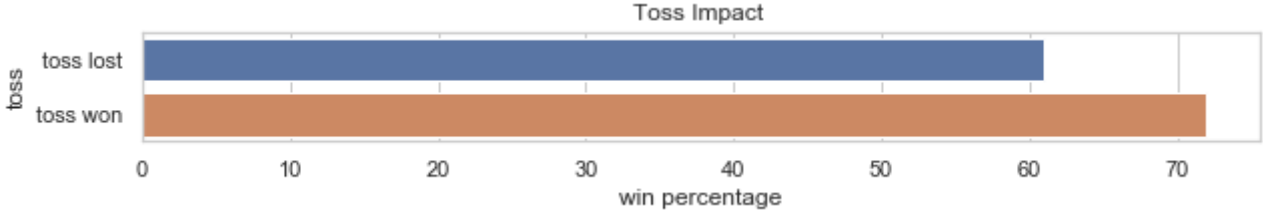


Fig 2.4 - Toss [Australia] - Historical Data

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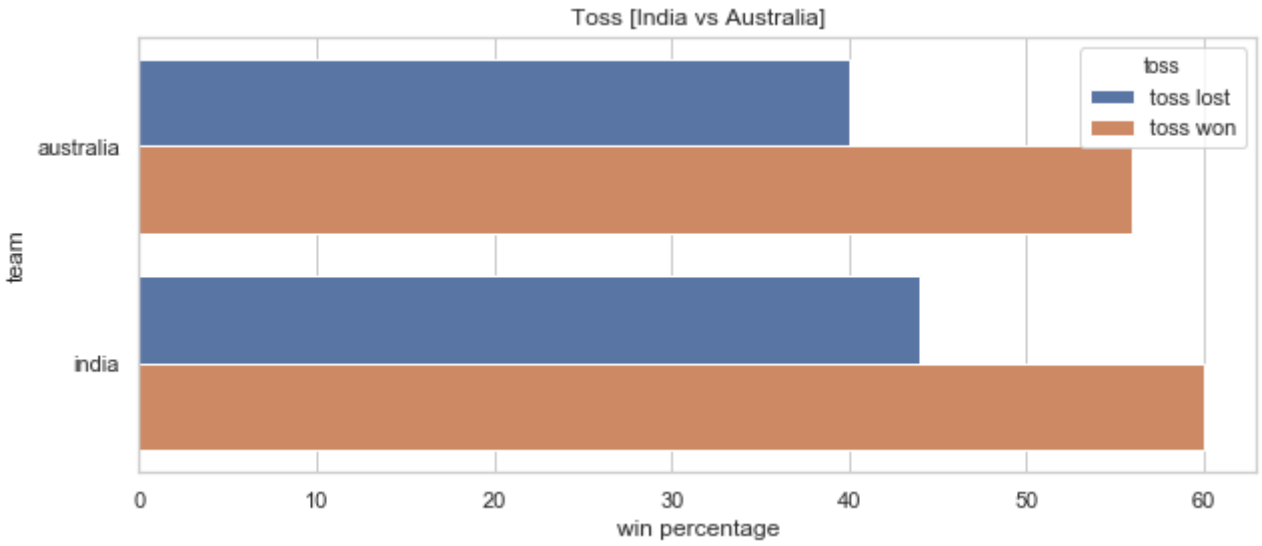
Fig 2.5 - Toss [India vs Australia]

	team	toss	won	lost	win percentage
0	australia	toss lost	4	6	40
1	australia	toss won	9	7	56
2	india	toss lost	7	9	44
3	india	toss won	6	4	60



	toss	won	lost	win percentage
0	toss lost	11	15	42
1	toss won	15	11	58

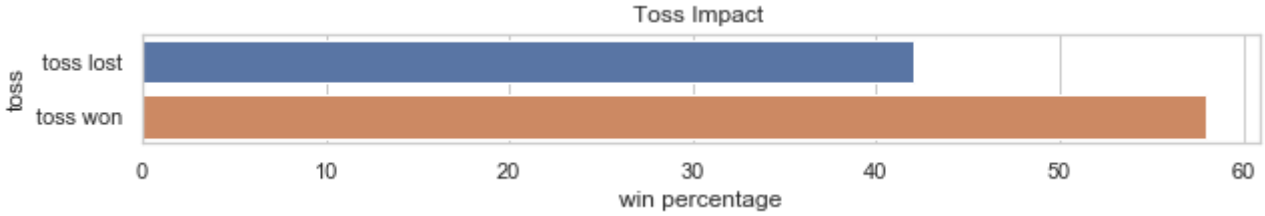
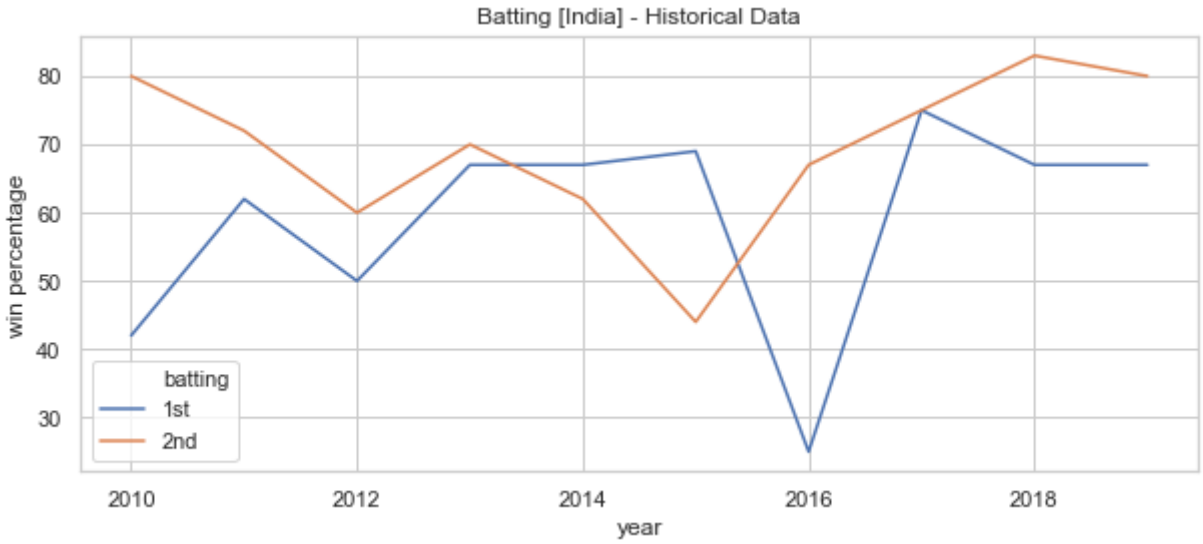


Fig 2.6 - Batting [India] - Historical Data

	year	batting	won	lost	win percentage
0	2010	1st	5	7	42
1	2010	2nd	12	3	80
2	2011	1st	8	5	62
3	2011	2nd	13	5	72
4	2012	1st	3	3	50
5	2012	2nd	6	4	60
6	2013	1st	8	4	67
7	2013	2nd	14	6	70
8	2014	1st	6	3	67
9	2014	2nd	8	5	62

	year	batting	won	lost	win percentage
10	2015	1st	9	4	69
11	2015	2nd	4	5	44
12	2016	1st	1	3	25
13	2016	2nd	6	3	67
14	2017	1st	9	3	75
15	2017	2nd	12	4	75
16	2018	1st	4	2	67
17	2018	2nd	10	2	83
18	2019	1st	2	1	67
19	2019	2nd	4	1	80



	batting	won	lost	win percentage
0	1st	55	35	61
1	2nd	89	38	70

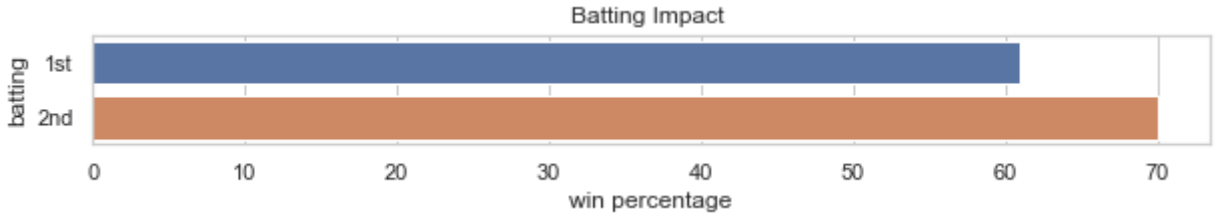
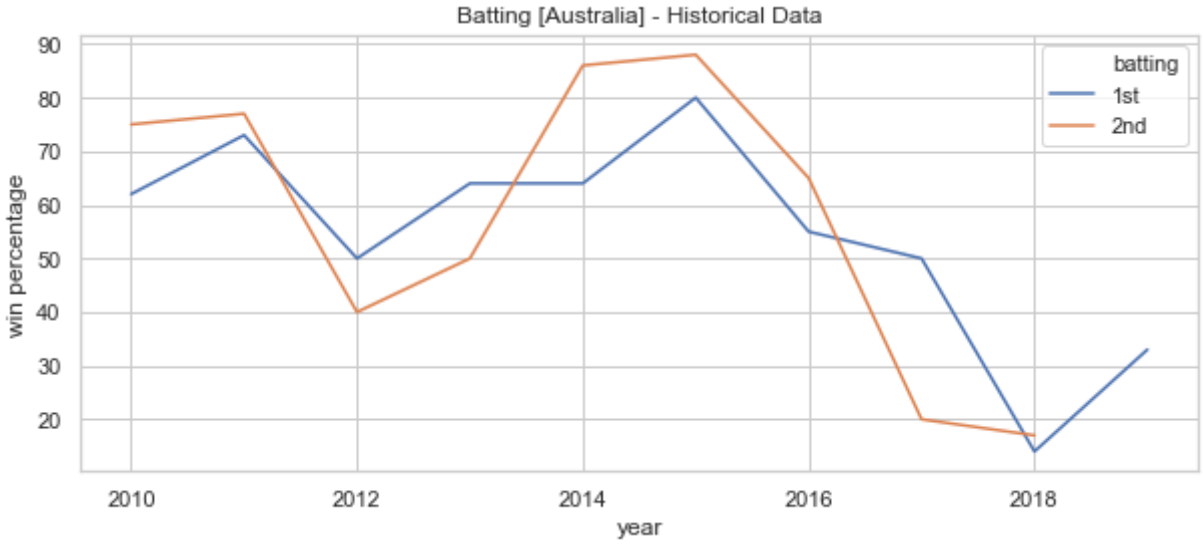


Fig 2.7 - Batting [Australia] - Historical Data

	year	batting	won	lost	win percentage
0	2010	1st	10	6	62
1	2010	2nd	6	2	75
2	2011	1st	8	3	73
3	2011	2nd	10	3	77
4	2012	1st	9	9	50
5	2012	2nd	2	3	40
6	2013	1st	9	5	64

	year	batting	won	lost	win percentage
7	2013	2nd	3	3	50
8	2014	1st	7	4	64
9	2014	2nd	6	1	86
10	2015	1st	8	2	80
11	2015	2nd	7	1	88
12	2016	1st	6	5	55
13	2016	2nd	11	6	65
14	2017	1st	4	4	50
15	2017	2nd	1	4	20
16	2018	1st	1	6	14
17	2018	2nd	1	5	17
18	2019	1st	1	2	33



	batting	won	lost	win percentage
0	1st	63	46	58
1	2nd	47	28	63

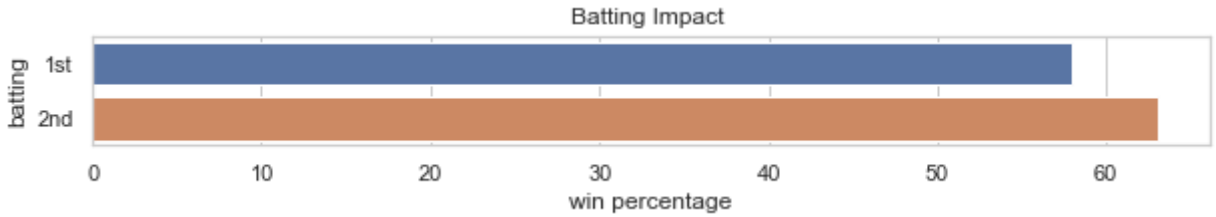
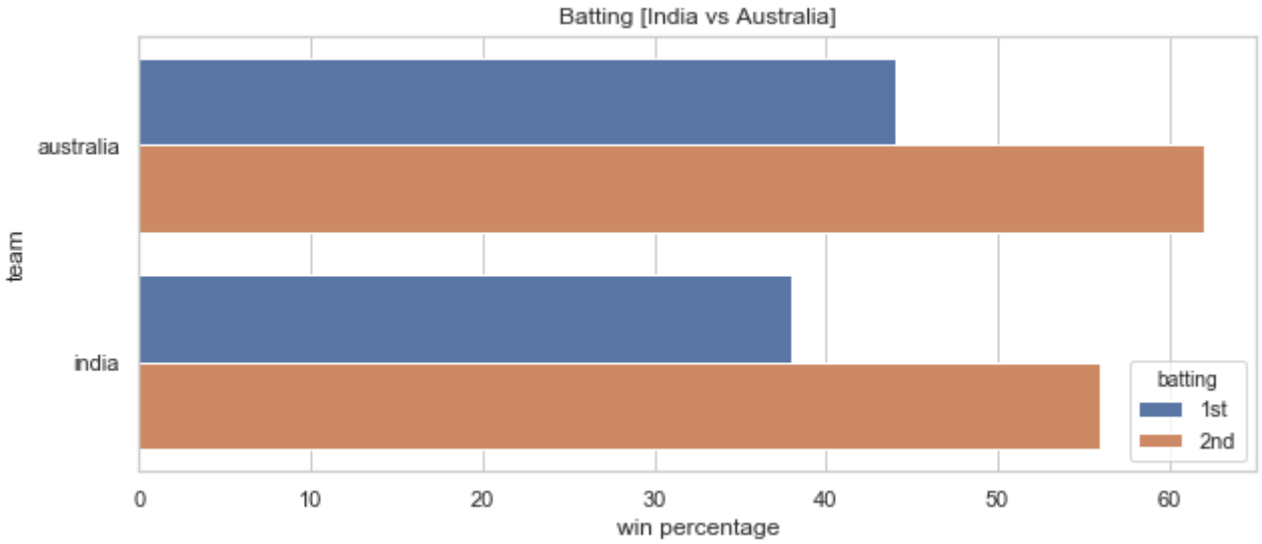


Fig 2.8 - Batting [India vs Australia]

	team	batting	won	lost	win percentage
0	australia	1st	8	10	44
1	australia	2nd	5	3	62
2	india	1st	3	5	38
3	india	2nd	10	8	56



	batting	won	lost	win percentage
0	1st	11	15	42
1	2nd	15	11	58

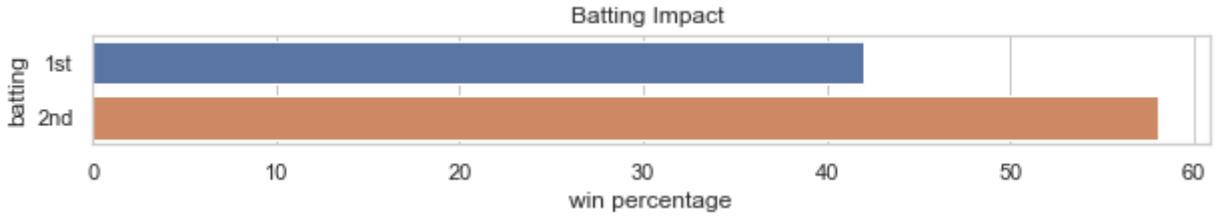
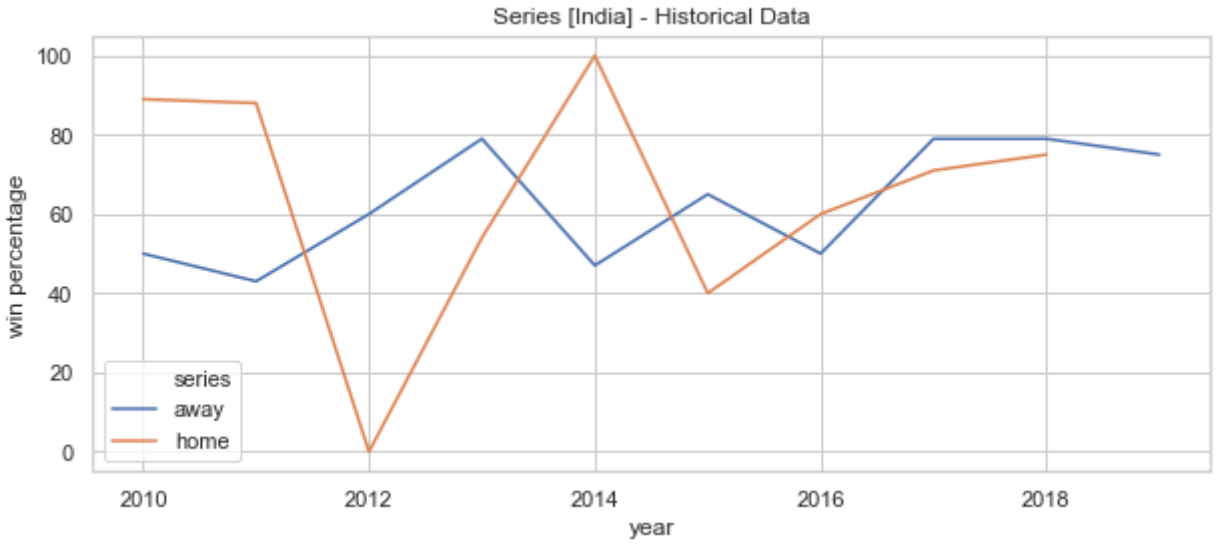


Fig 2.9 - Series [India] - Historical Data

	year	series	won	lost	win percentage
0	2010	away	9	9	50
1	2010	home	8	1	89
2	2011	away	6	8	43
3	2011	home	15	2	88
4	2012	away	9	6	60
5	2012	home	0	1	0
6	2013	away	15	4	79
7	2013	home	7	6	54
8	2014	away	7	8	47
9	2014	home	7	0	100
10	2015	away	11	6	65
11	2015	home	2	3	40
12	2016	away	4	4	50
13	2016	home	3	2	60
14	2017	away	11	3	79
15	2017	home	10	4	71
16	2018	away	11	3	79
17	2018	home	3	1	75

year	series	won	lost	win percentage



	series	won	lost	win percentage
0	away	89	53	63
1	home	55	20	73

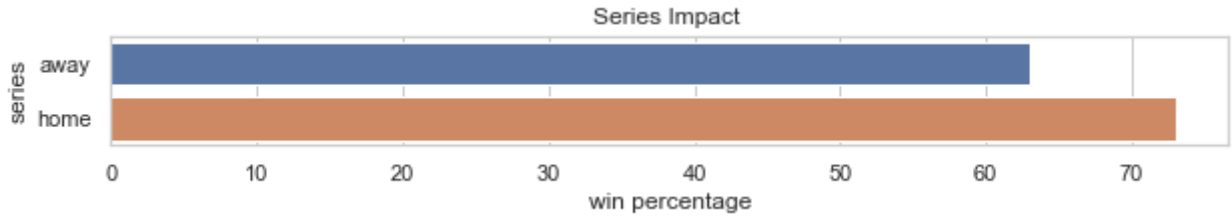
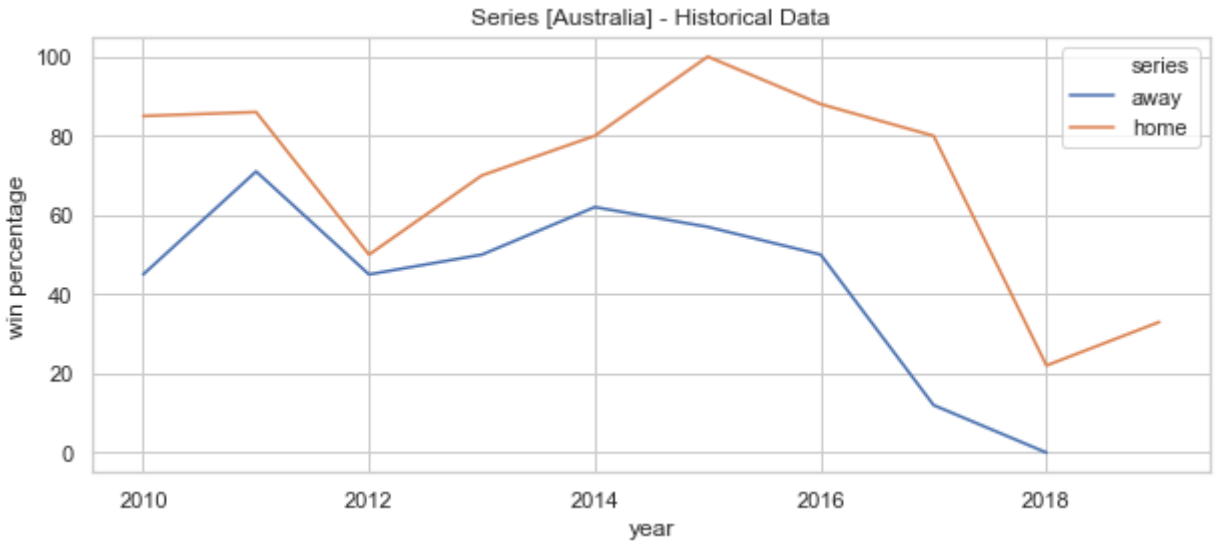


Fig 2.10 - Series [Australia] - Historical Data

	year	series	won	lost	win percentage
0	2010	away	5	6	45
1	2010	home	11	2	85
2	2011	away	12	5	71
3	2011	home	6	1	86
4	2012	away	5	6	45
5	2012	home	6	6	50
6	2013	away	5	5	50
7	2013	home	7	3	70
8	2014	away	5	3	62
9	2014	home	8	2	80
10	2015	away	4	3	57
11	2015	home	11	0	100
12	2016	away	10	10	50
13	2016	home	7	1	88
14	2017	away	1	7	12
15	2017	home	4	1	80
16	2018	away	0	4	0
17	2018	home	2	7	22

	year	series	won	lost	win percentage
18	2019	home	1	2	33



	series	won	lost	win percentage
0	away	47	49	49
1	home	63	25	72

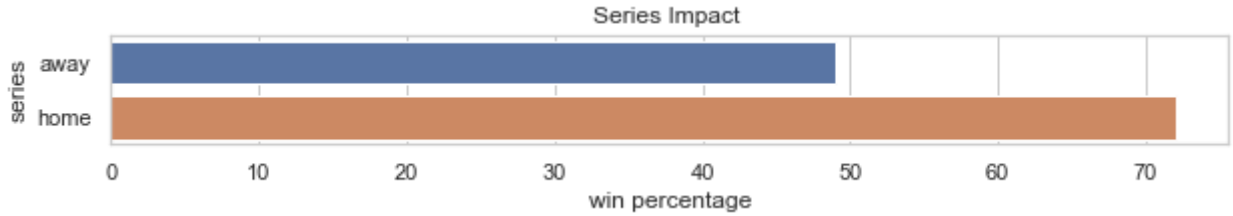
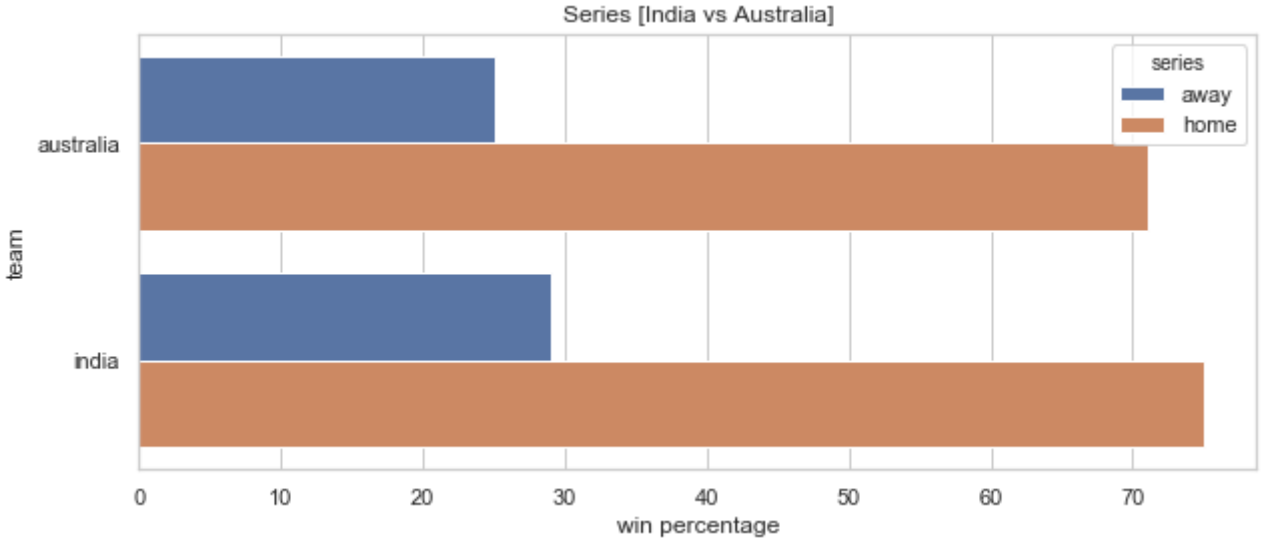


Fig 2.11 - Series [India vs Australia]

	team	series	won	lost	win percentage
0	australia	away	3	9	25
1	australia	home	10	4	71
2	india	away	4	10	29
3	india	home	9	3	75



	series	won	lost	win percentage
0	away	7	19	27
1	home	19	7	73

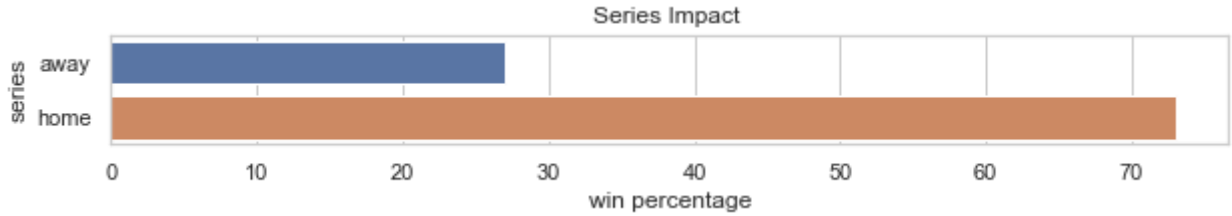


Fig 2.12 - Scores [India and Australia] - Historical Data

	score_range	team	won	lost	win percentage
0	60	australia	1	1	50
1	60	india	0	1	0
2	90	australia	2	0	100
3	90	india	7	3	70
4	120	australia	3	4	43
5	120	india	4	4	50
6	150	australia	1	8	11
7	150	india	11	8	58
8	180	australia	10	9	53
9	180	india	11	7	61
10	210	australia	22	16	58
11	210	india	25	15	62
12	240	australia	16	12	57
13	240	india	24	14	63
14	270	australia	24	15	62
15	270	india	27	12	69
16	300	australia	19	5	79
17	300	india	17	9	65
18	330	australia	6	3	67
19	330	india	7	0	100
20	360	australia	5	1	83
21	360	india	7	0	100
22	390	australia	1	0	100
23	390	india	4	0	100

	team	won	lost	win percentage
0	australia	110	74	60
1	india	144	73	66

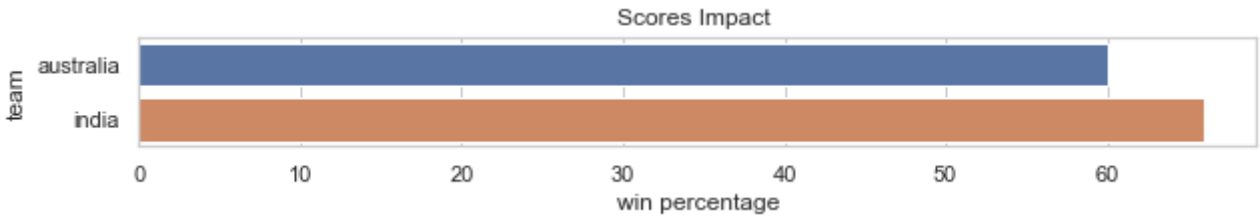
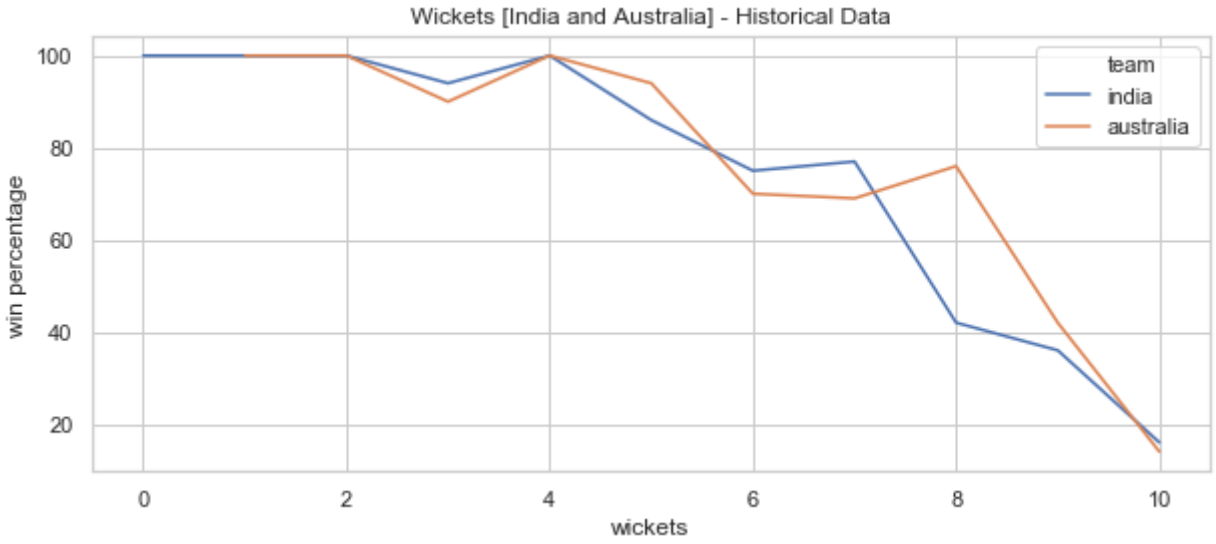


Fig 2.13 - Wickets [India and Australia] - Historical Data

	wickets	team	won	lost	win percentage
0	0	india	1	0	100
1	1	australia	3	0	100
2	1	india	11	0	100
3	2	australia	4	0	100
4	2	india	18	0	100
5	3	australia	9	1	90
6	3	india	16	1	94
7	4	australia	9	0	100
8	4	india	27	0	100
9	5	australia	17	1	94
10	5	india	18	3	86
11	6	australia	16	7	70
12	6	india	18	6	75
13	7	australia	20	9	69
14	7	india	17	5	77
15	8	australia	16	5	76
16	8	india	5	7	42
17	9	australia	10	14	42

	wickets	team	won	lost	win percentage
18	9	india	5	9	36
19	10	australia	6	37	14
20	10	india	8	42	16



	team	won	lost	win percentage
0	australia	110	74	60
1	india	144	73	66

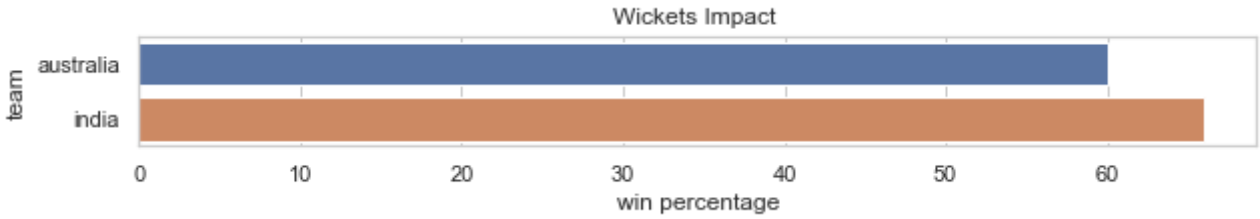
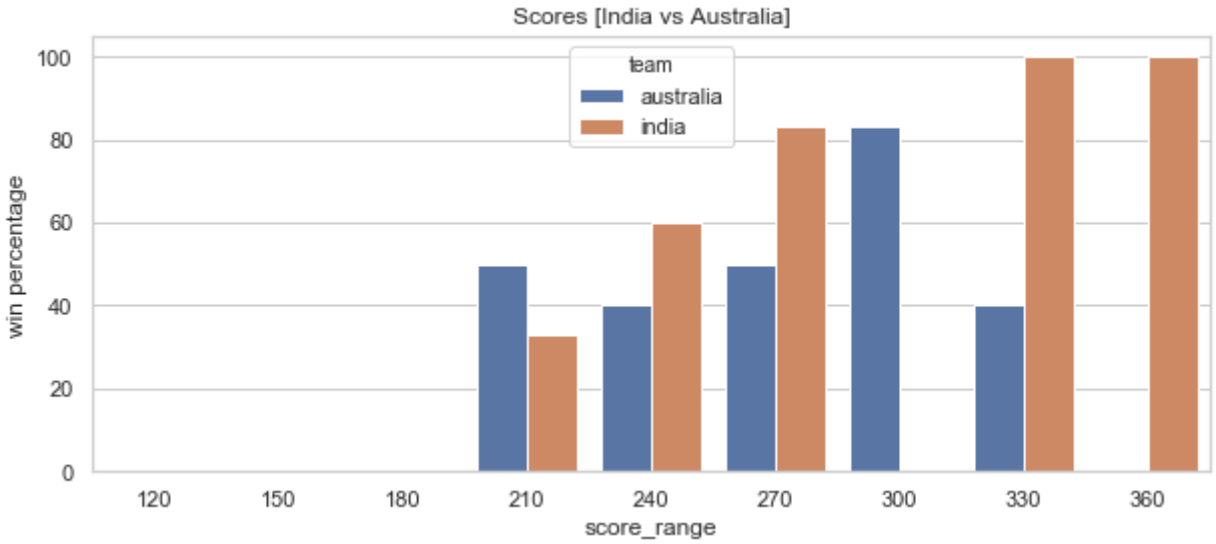


Fig 2.14 - Scores [India vs Australia]

	score_range	team	won	lost	win percentage
0	120	australia	0	1	0
1	150	india	0	3	0
2	180	australia	0	1	0
3	210	australia	1	1	50
4	210	india	1	2	33
5	240	australia	2	3	40
6	240	india	3	2	60
7	270	australia	3	3	50
8	270	india	5	1	83
9	300	australia	5	1	83
10	300	india	0	5	0
11	330	australia	2	3	40
12	330	india	2	0	100
13	360	india	2	0	100



	team	won	lost	win percentage
0	australia	13	13	50
1	india	13	13	50

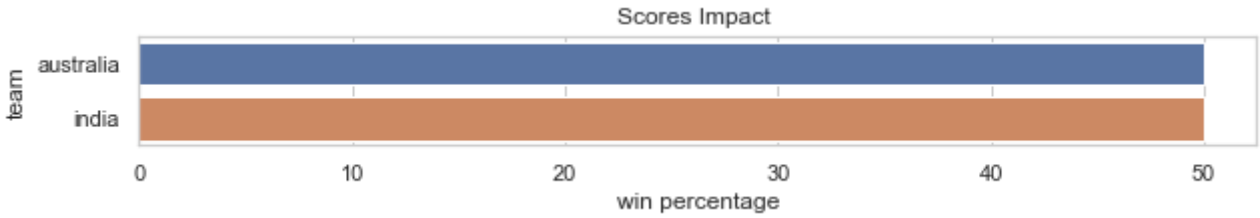
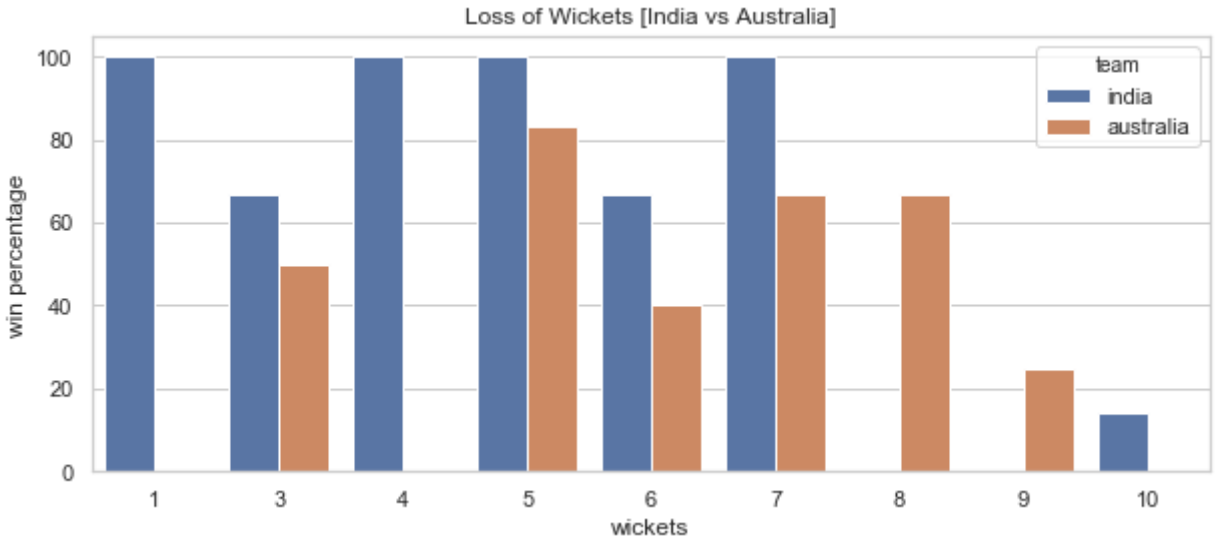
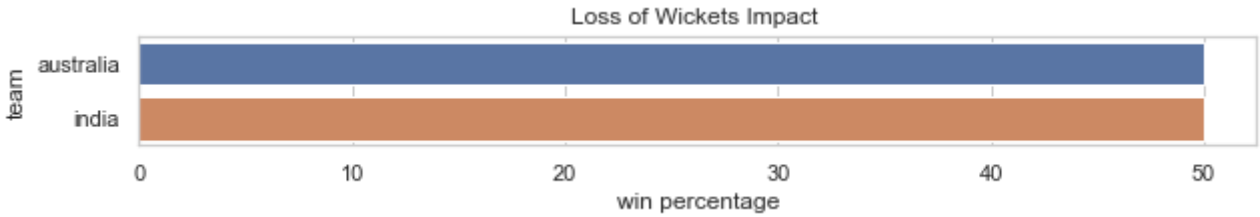


Fig 2.15 - Loss of Wickets [India vs Australia]

	wickets	team	won	lost	win percentage
0	1	india	1	0	100
1	3	australia	1	1	50
2	3	india	2	1	67
3	4	india	3	0	100
4	5	australia	5	1	83
5	5	india	3	0	100
6	6	australia	2	3	40
7	6	india	2	1	67
8	7	australia	2	1	67
9	7	india	1	0	100
10	8	australia	2	1	67
11	8	india	0	3	0
12	9	australia	1	3	25
13	9	india	0	2	0
14	10	australia	0	3	0
15	10	india	1	6	14



	team	won	lost	win percentage
0	australia	13	13	50
1	india	13	13	50



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3. Ground Stats

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Fig 3.1 - Toss - Historical Data

	ground	toss	won	lost	win percentage
0	delhi	toss lost	14	9	61
1	delhi	toss won	9	14	39
2	hyderabad (deccan)	toss lost	7	11	39
3	hyderabad (deccan)	toss won	11	7	61
4	mohali	toss lost	14	10	58
5	mohali	toss won	10	14	42
6	nagpur	toss lost	13	9	59
7	nagpur	toss won	9	13	41
8	ranchi	toss lost	1	2	33
9	ranchi	toss won	2	1	67

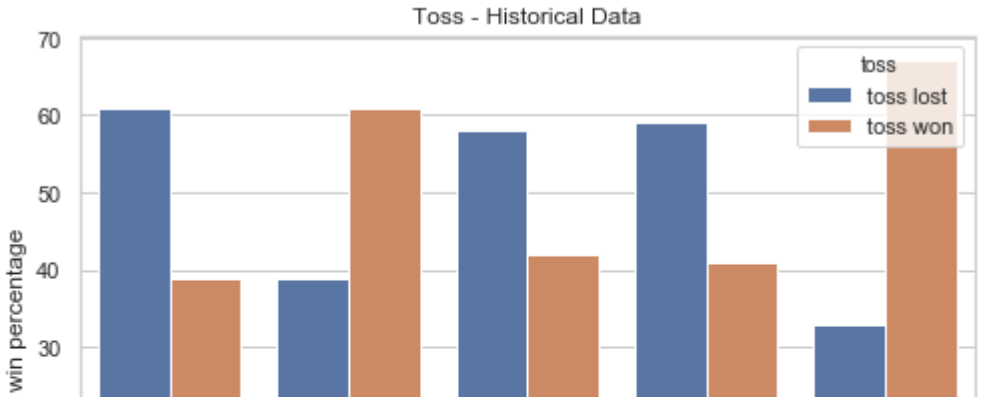


Fig 3.2 - Toss['India'] - Historical Data

	ground	toss	win percentage
0	delhi	toss lost	9
1	delhi	toss won	9
2	hyderabad (deccan)	toss lost	7
3	hyderabad (deccan)	toss won	5
4	mohali	toss lost	5
5	mohali	toss won	10
6	nagpur	toss lost	9
7	nagpur	toss won	8
8	ranchi	toss lost	2
9	ranchi	toss won	1

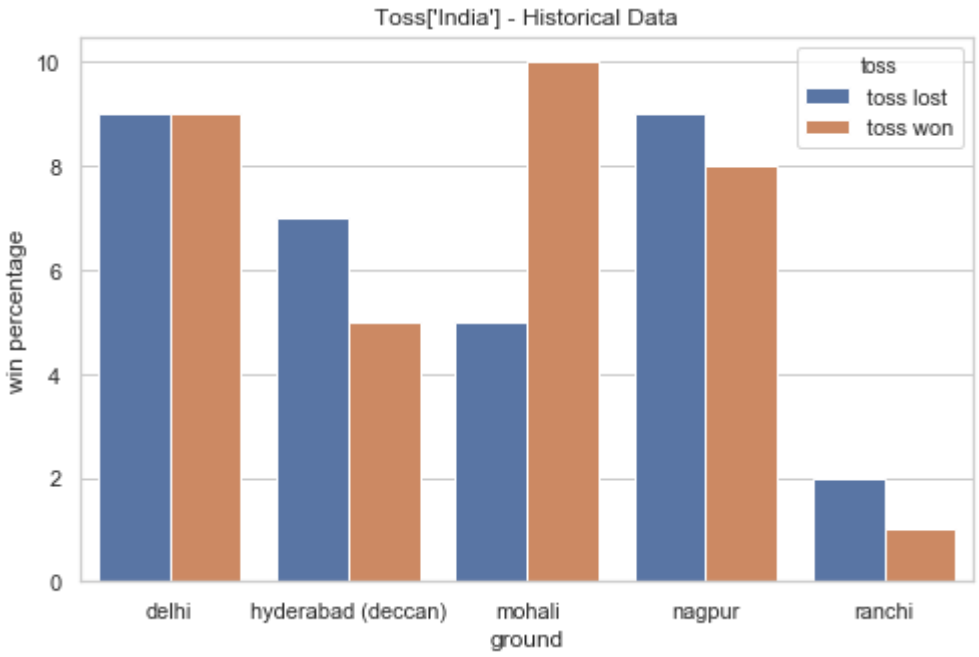


Fig 3.3 - Toss['Australia'] - Historical Data

	ground	toss	win percentage
0	delhi	toss lost	3
1	delhi	toss won	2
2	hyderabad (deccan)	toss won	3
3	mohali	toss lost	3
4	mohali	toss won	3
5	nagpur	toss lost	2
6	nagpur	toss won	4

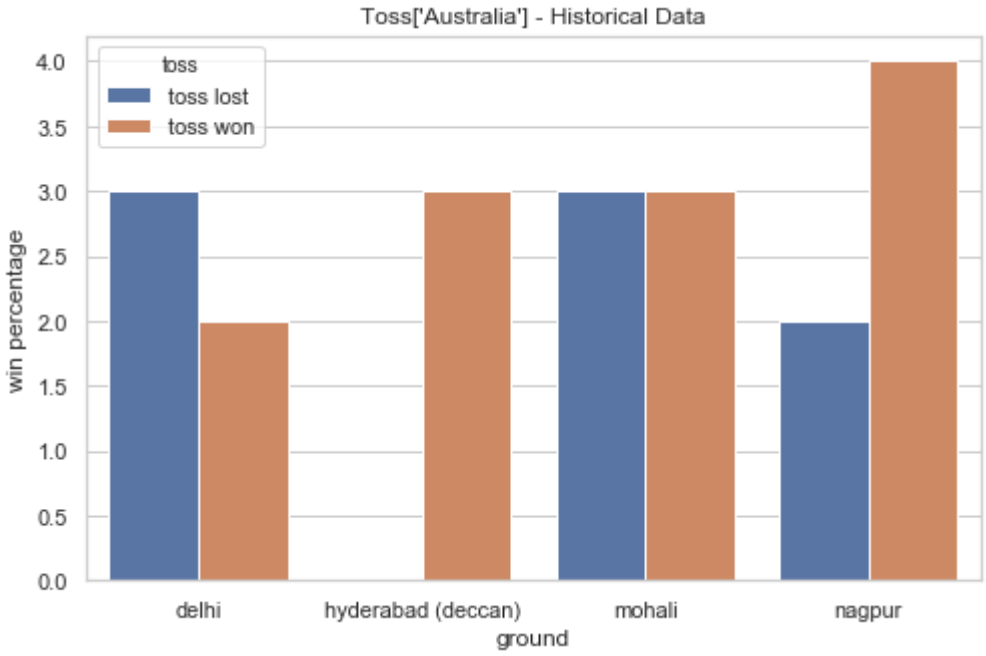


Fig 3.4 - Batting - Historical Data

	ground	batting	won	lost	win percentage
0	delhi	1st	11	12	48
1	delhi	2nd	12	11	52
2	hyderabad (deccan)	1st	10	8	56
3	hyderabad (deccan)	2nd	8	10	44
4	mohali	1st	15	9	62
5	mohali	2nd	9	15	38
6	nagpur	1st	11	11	50
7	nagpur	2nd	11	11	50
8	ranchi	1st	1	2	33
9	ranchi	2nd	2	1	67

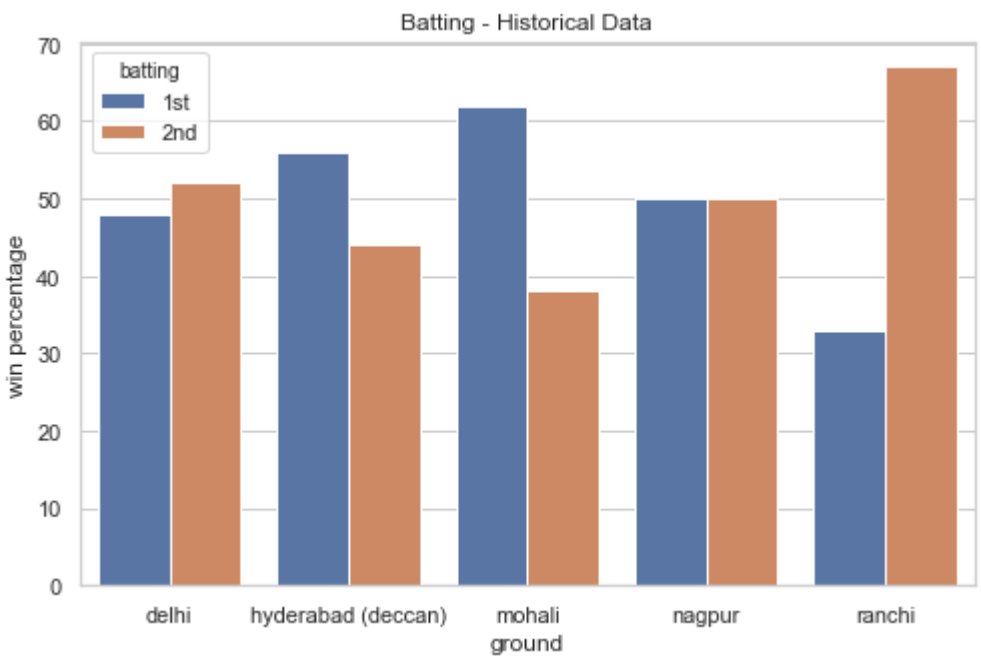


Fig 3.5 - Batting['India'] - Historical Data

	ground	batting	win percentage
0	delhi	1st	7
1	delhi	2nd	11
2	hyderabad (deccan)	1st	5
3	hyderabad (deccan)	2nd	7
4	mohali	1st	9
5	mohali	2nd	6
6	nagpur	1st	8
7	nagpur	2nd	9
8	ranchi	2nd	3

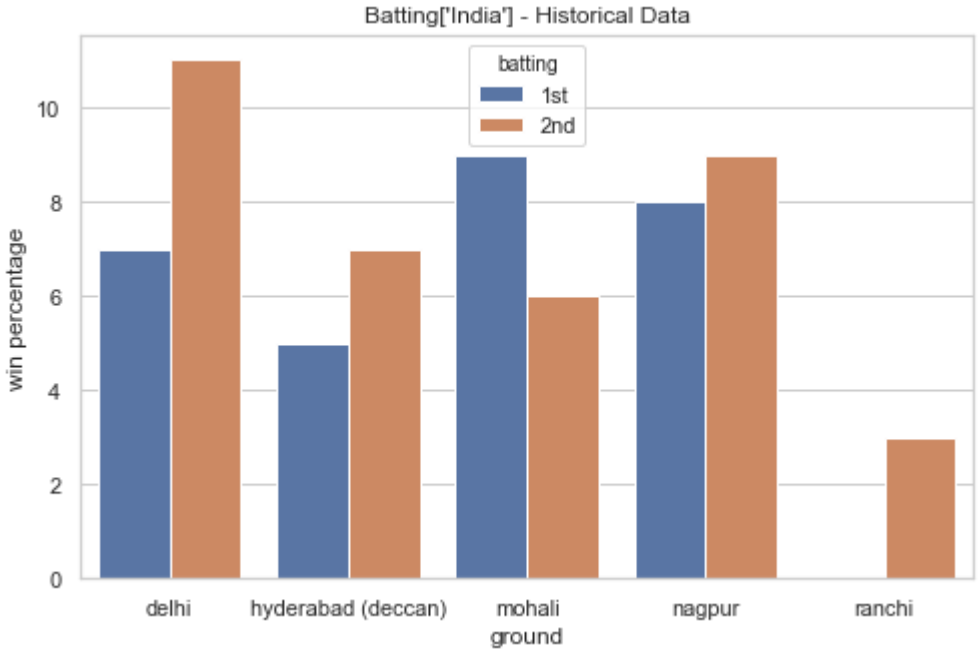


Fig 3.6 - Batting['Australia'] - Historical Data

	ground	batting	win percentage
0	delhi	1st	3
1	delhi	2nd	2
2	hyderabad (deccan)	1st	3
3	mohali	1st	3
4	mohali	2nd	3
5	nagpur	1st	3
6	nagpur	2nd	3

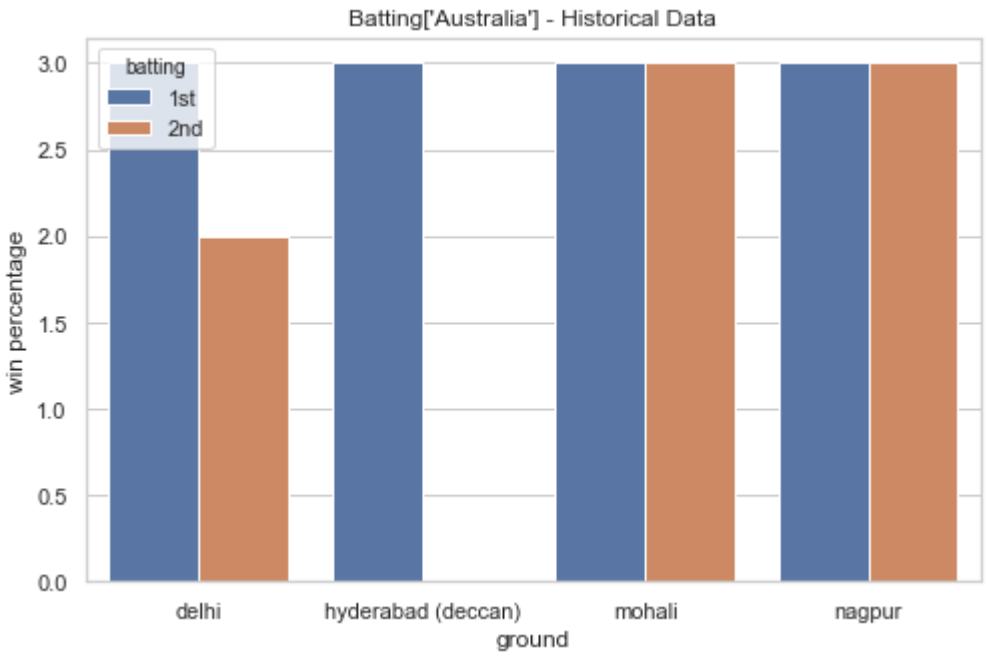
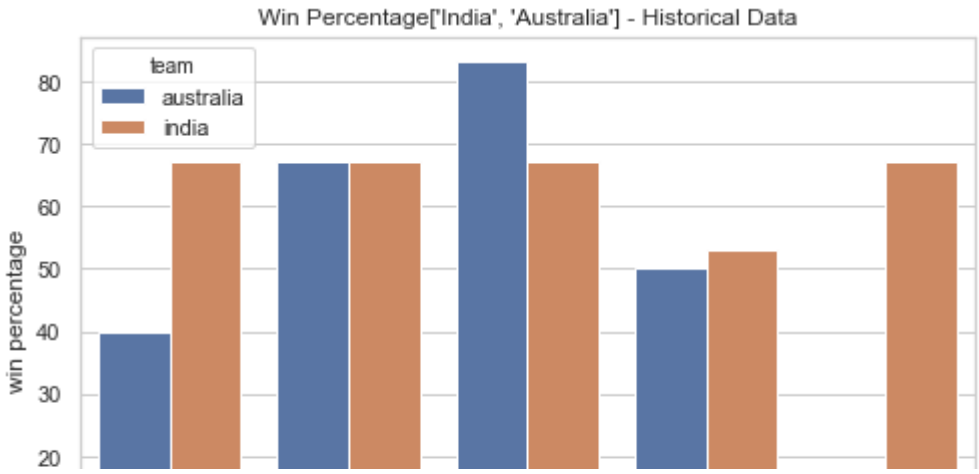


Fig 3.7 - Win Percentage['India', 'Australia'] - Historical Data

	ground	team	won	lost	win percentage
0	delhi	australia	2	3	40
1	delhi	india	12	6	67
2	hyderabad (deccan)	australia	2	1	67
3	hyderabad (deccan)	india	8	4	67
4	mohali	australia	5	1	83
5	mohali	india	10	5	67
6	nagpur	australia	3	3	50
7	nagpur	india	9	8	53
8	ranchi	india	2	1	67



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4. Average Stats

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Fig 4.1 - Team Average Wickets

	team	batting	wickets
0	australia	1st	6
1	australia	2nd	6.83333
2	india	1st	7.32258
3	india	2nd	5.5

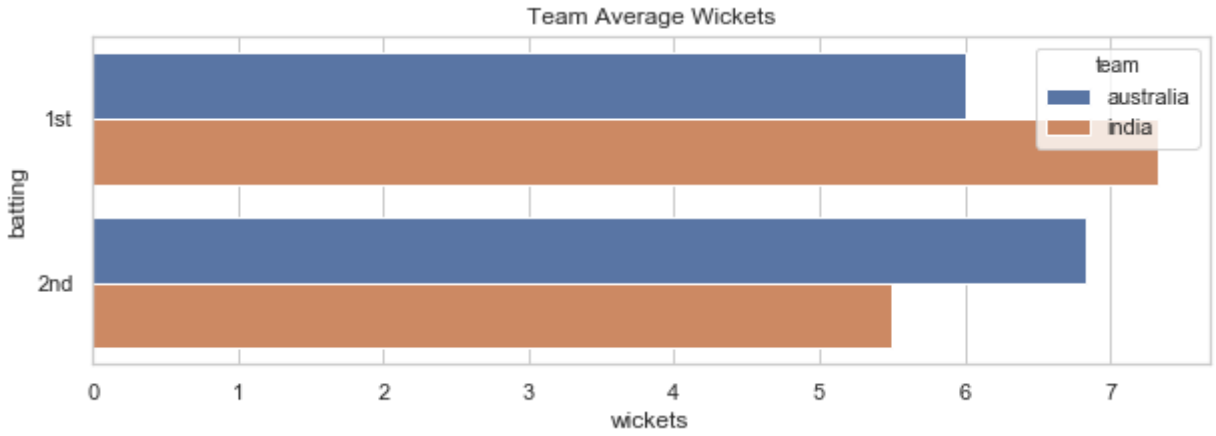


Fig 4.2 - Team Average Scores

	team	batting	score
0	australia	1st	301.7
1	australia	2nd	231.333
2	india	1st	297.935
3	india	2nd	254.614

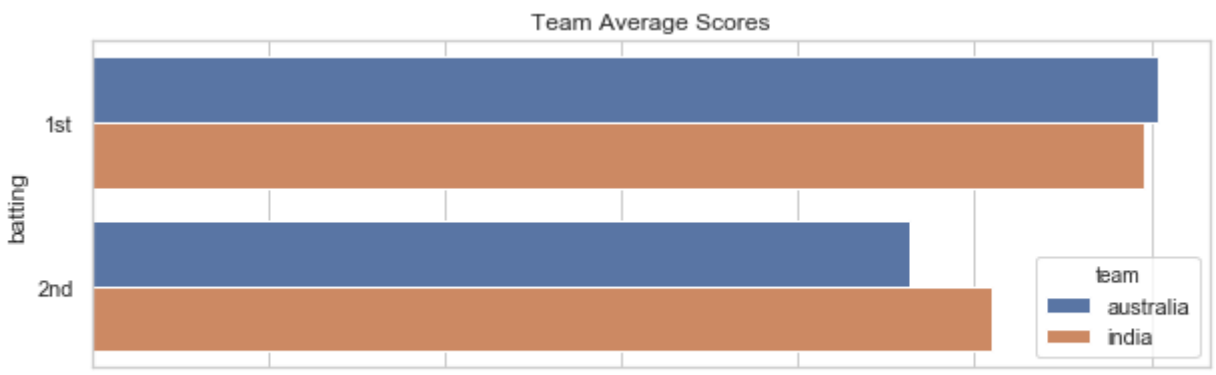


Fig 4.3 - Ground Average Scores

	ground	batting	score
0	delhi	1st	239.783
1	delhi	2nd	211.391
2	hyderabad (deccan)	1st	253.778
3	hyderabad (deccan)	2nd	214.167
4	mohali	1st	268
5	mohali	2nd	228.25
6	nagpur	1st	278.227
7	nagpur	2nd	246.636
8	ranchi	1st	233.667
9	ranchi	2nd	228.667

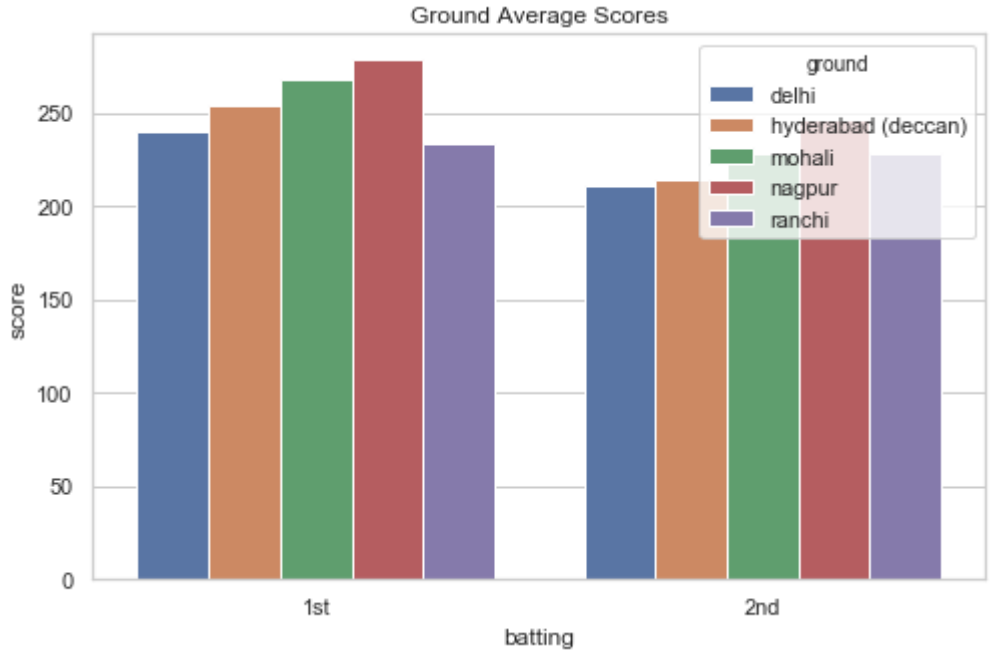


Fig 4.4 - Team Average Scores [Nagpur]

	ground	team	batting	score
11	nagpur	australia	1st	303
12	nagpur	australia	2nd	206.667
13	nagpur	india	1st	306.25

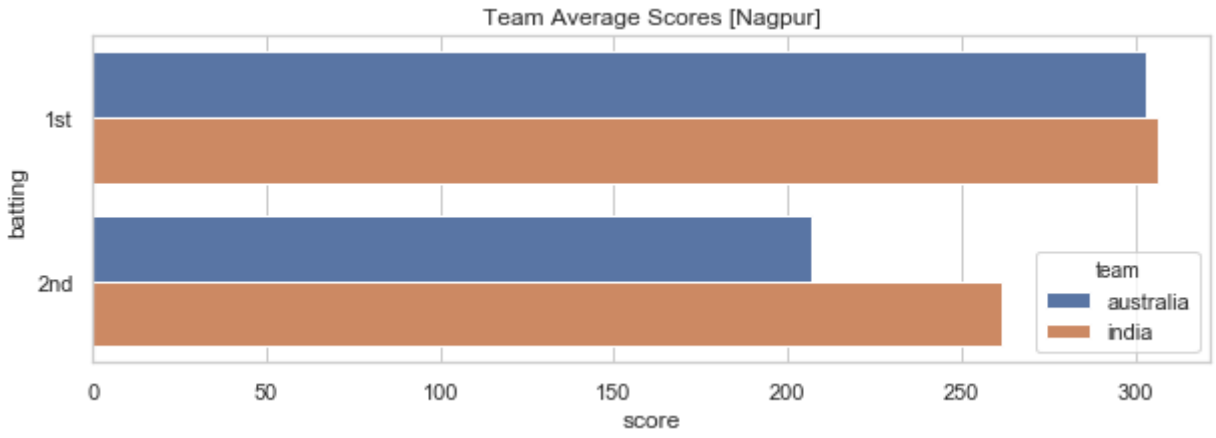


Fig 4.5 - Team Average Scores [Ranchi]

	ground	team	batting	score
15	ranchi	india	2nd	228.667

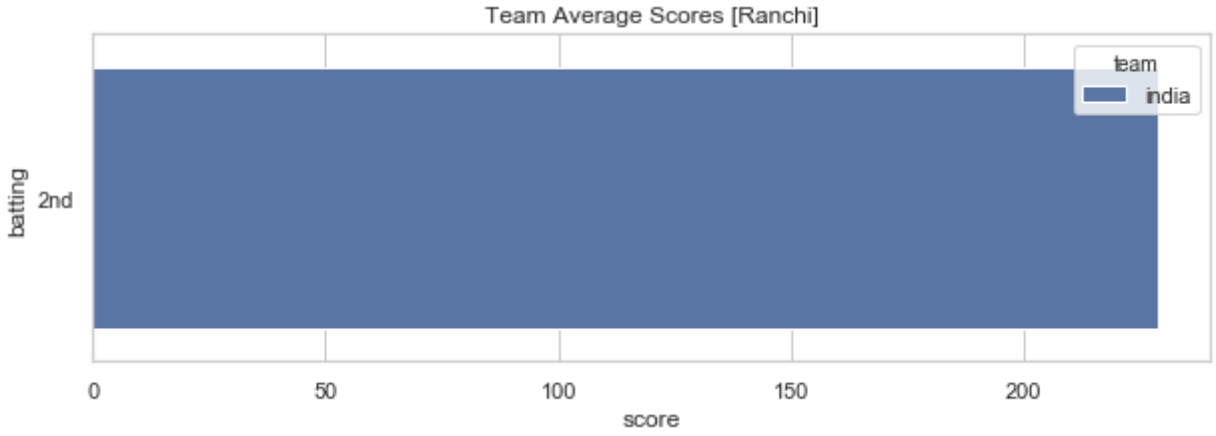


Fig 4.6 - Team Average Scores [Mohali]

	ground	team	batting	score
7	mohali	australia	1st	232.333
8	mohali	australia	2nd	280
9	mohali	india	1st	283.333
10	mohali	india	2nd	230.167

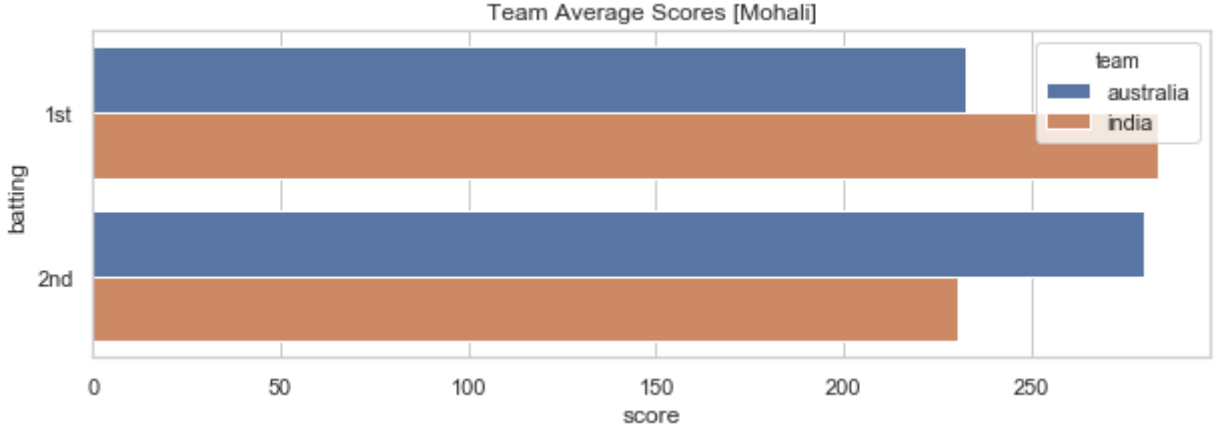


Fig 4.7 - Team Average Scores [Delhi]

	ground	team	batting	score
0	delhi	australia	1st	253.667
1	delhi	australia	2nd	232
2	delhi	india	1st	244.143
3	delhi	india	2nd	217.909

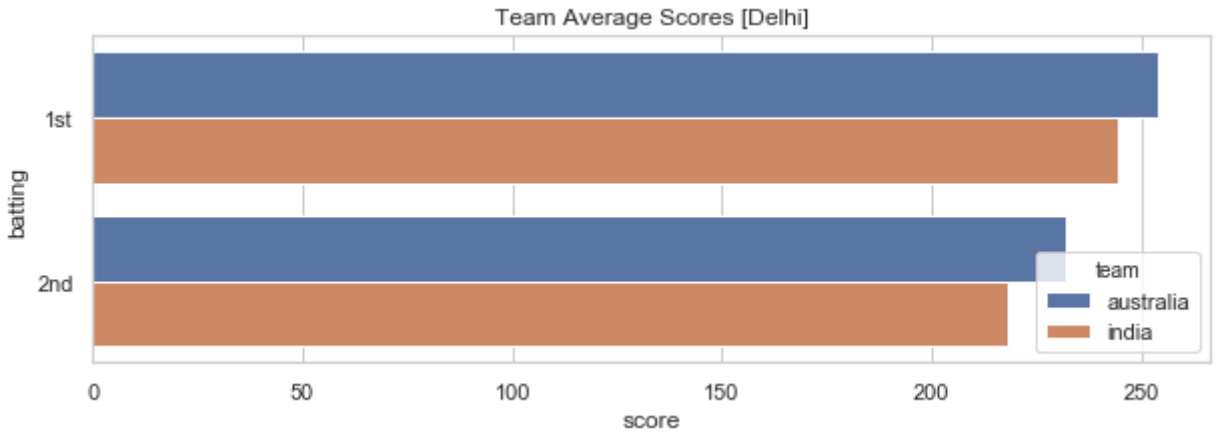
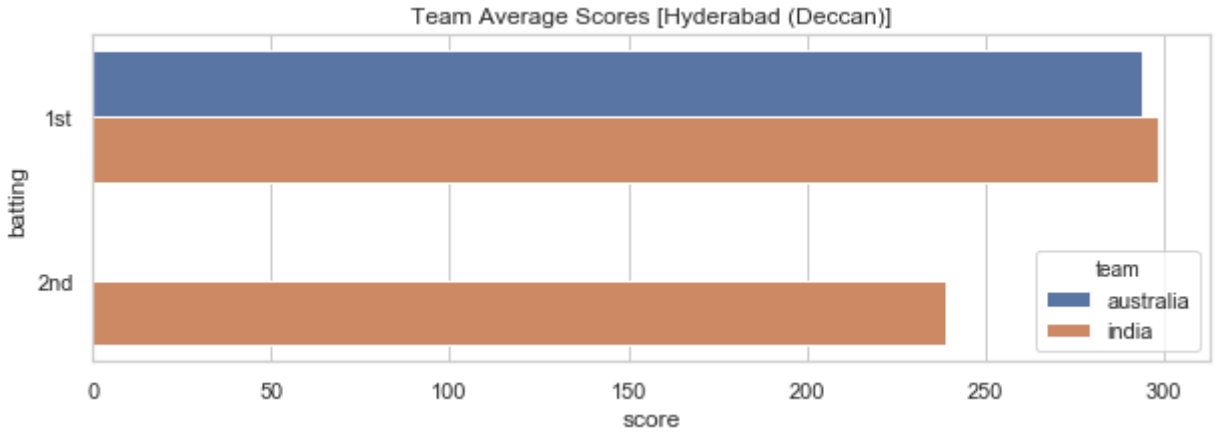


Fig 4.8 - Team Average Scores [Hyderabad (Deccan)]

	ground	team	batting	score
4	hyderabad (deccan)	australia	1st	294
5	hyderabad (deccan)	india	1st	298
6	hyderabad (deccan)	india	2nd	238.857



5. Batting Stats since year 2010

Fig 5.1 - Runs Scored [India and Australia] - Historical Data

	player	runs
17	v kohli	49.995
12	rg sharma	45.3057
18	v shankar	45

	player	runs
14	s dhawan	42.4426
15	se marsh	42.093
0	aj finch	36.2526
2	at rayudu	35.3404
9	ms dhoni	35.2133
8	mp stoinis	34.913
10	psp handscomb	30
16	ut khawaja	29.15
5	gj maxwell	29.0886
7	km jadhav	28.6286
1	at carey	27.375
6	kl rahul	26.4167
4	djm short	20.75
13	rr pant	20.5
11	ra jadeja	20.3947
3	b kumar	9.5

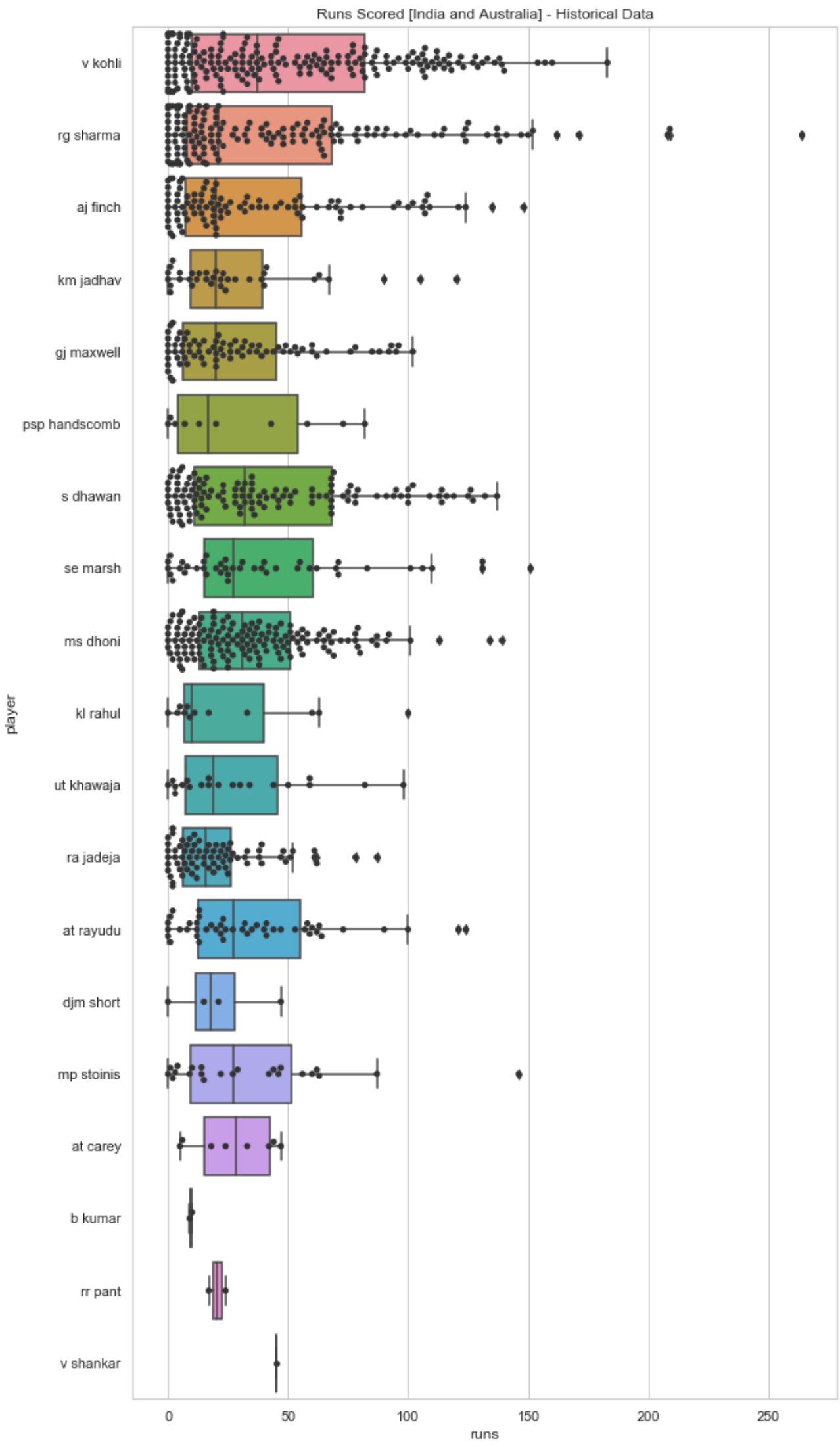
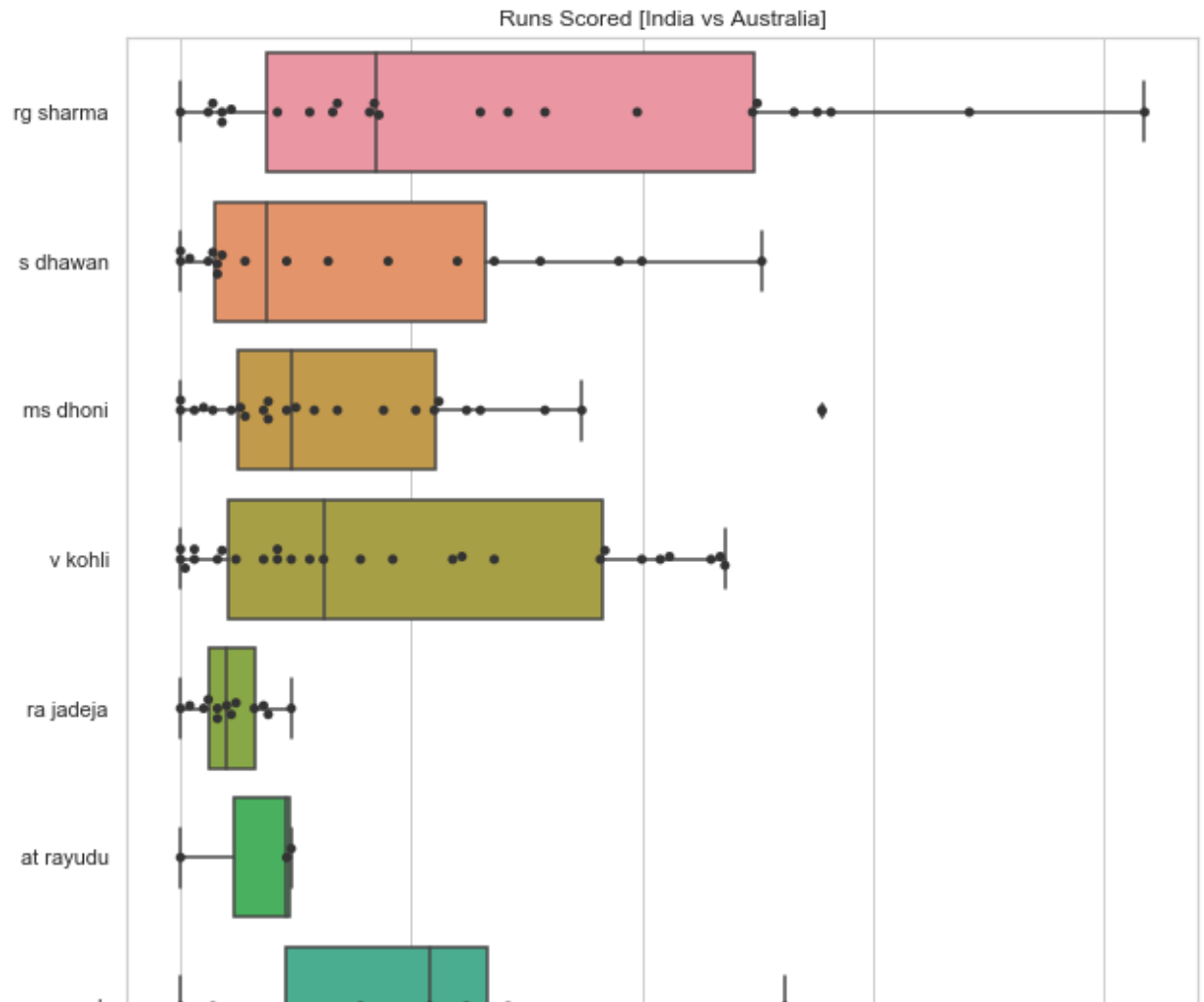

Runs Scored [India and Australia] - Historical Data
v kohli
rg sharma
aj finch
km jadhav
gj maxwell
psp handscomb
s dhawan
se marsh
ms dhoni
kl rahul
ut khawaja
ra jadeja
at rayudu
djm short
mp stoinis
at carey
b kumar
rr pant
v shankar
player
0
50
100
150
200
250
runs

Fig 5.2 - Runs Scored [India vs Australia]

	player	runs
9	rg sharma	68.2917
11	se marsh	52
13	v kohli	47.963
0	aj finch	45.0526
12	ut khawaja	38
10	s dhawan	37.8333
6	ms dhoni	35.75
7	psp handscomb	35
3	gj maxwell	33.5
4	km jadhav	33.1667
5	mp stoinis	29.875
1	at carey	15.6667
2	at rayudu	15.6667
8	ra jadeja	10.6923



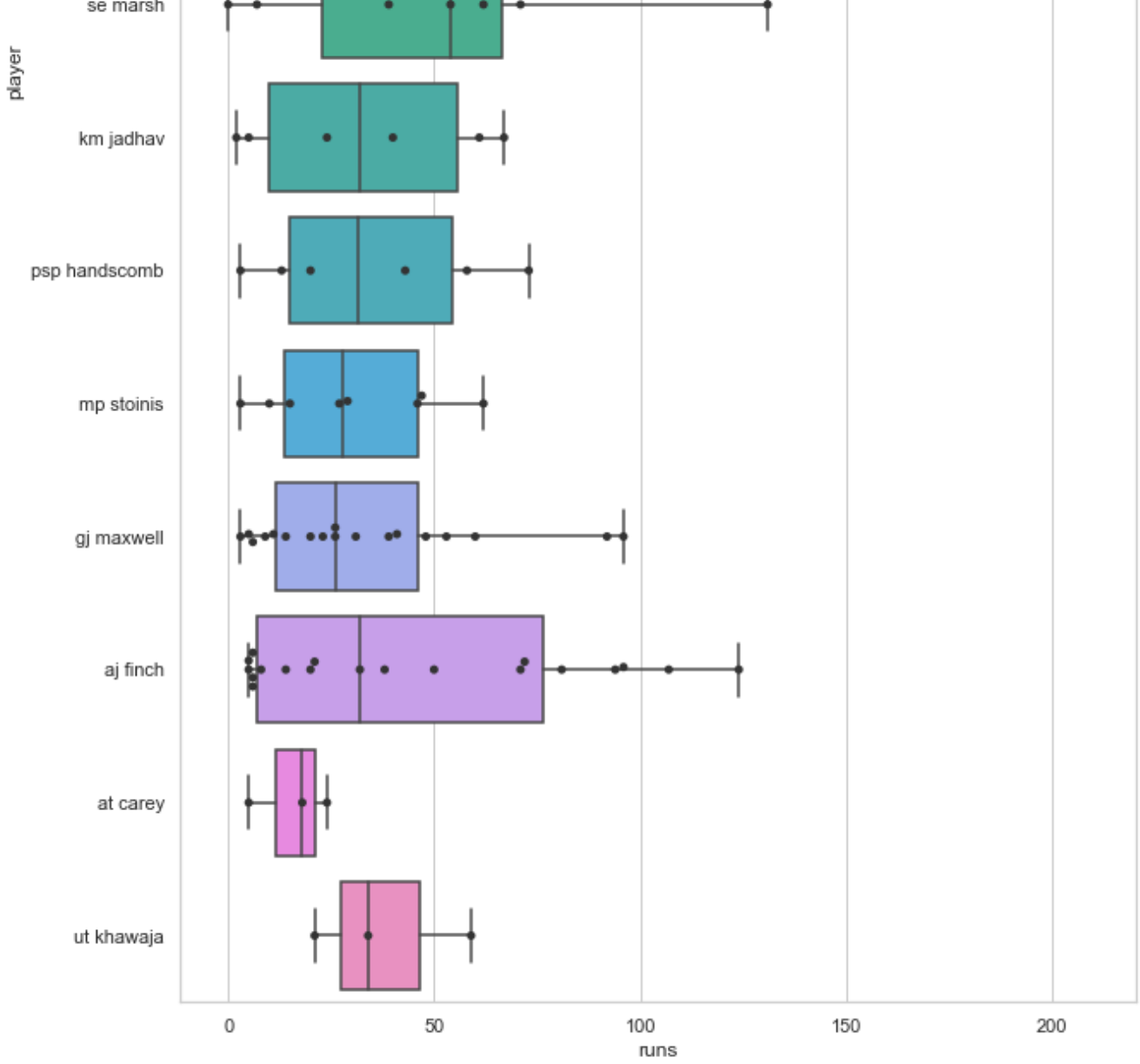


Fig 5.3 - Runs Scored [India and Australia] - India

	player	runs
10	rg sharma	59.1739
14	v kohli	53.8356
0	aj finch	48.8889
1	at rayudu	46.4545
12	s dhawan	39.5625
7	ms dhoni	36.9643
3	gj maxwell	34
5	km jadhav	32.875
6	mp stoinis	30.6
11	rr pant	20.5
8	psp handscomb	19.6667
9	ra jadeja	13.15
2	b kumar	10
4	kl rahul	8
13	se marsh	0

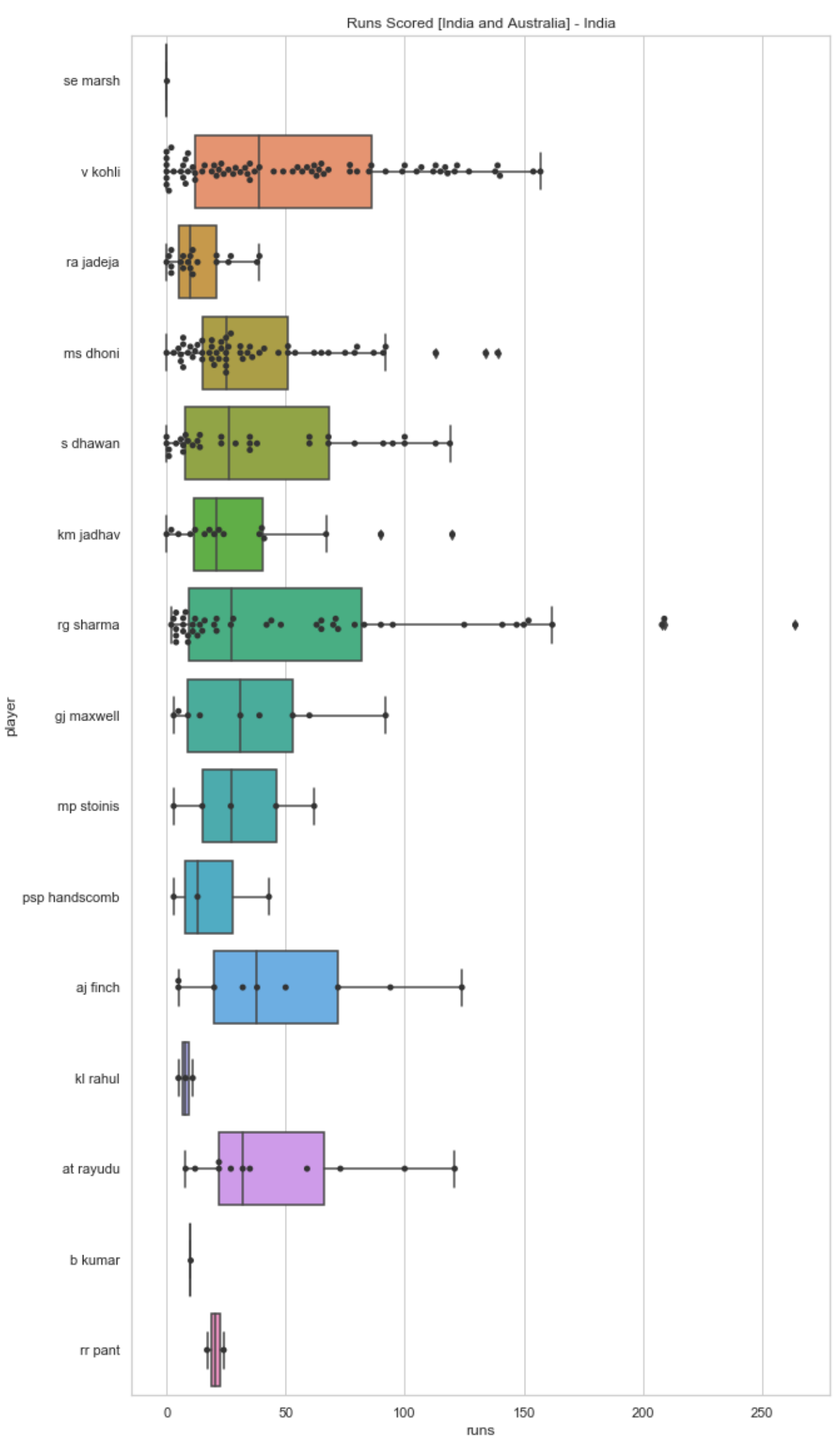

Runs Scored [India and Australia] - India
se marsh
v kohli
ra jadeja
ms dhoni
s dhawan
km jadhav
rg sharma
gj maxwell
mp stoinis
psp handscomb
aj finch
kl rahul
at rayudu
b kumar
rr pant
player
0
50
100
150
200
250
runs

Fig 5.4 - Fours Hit [India and Australia] - India

	player	fours
0	aj finch	6
10	rg sharma	5.67391
12	s dhawan	5.21875
14	v kohli	5.09589
1	at rayudu	4.18182
5	km jadhav	3.5
7	ms dhoni	2.96429
11	rr pant	2.5
3	gj maxwell	2.44444
6	mp stoinis	2.4
2	b kumar	1
4	kl rahul	1
8	psp handscomb	1
9	ra jadeja	0.8
13	se marsh	0

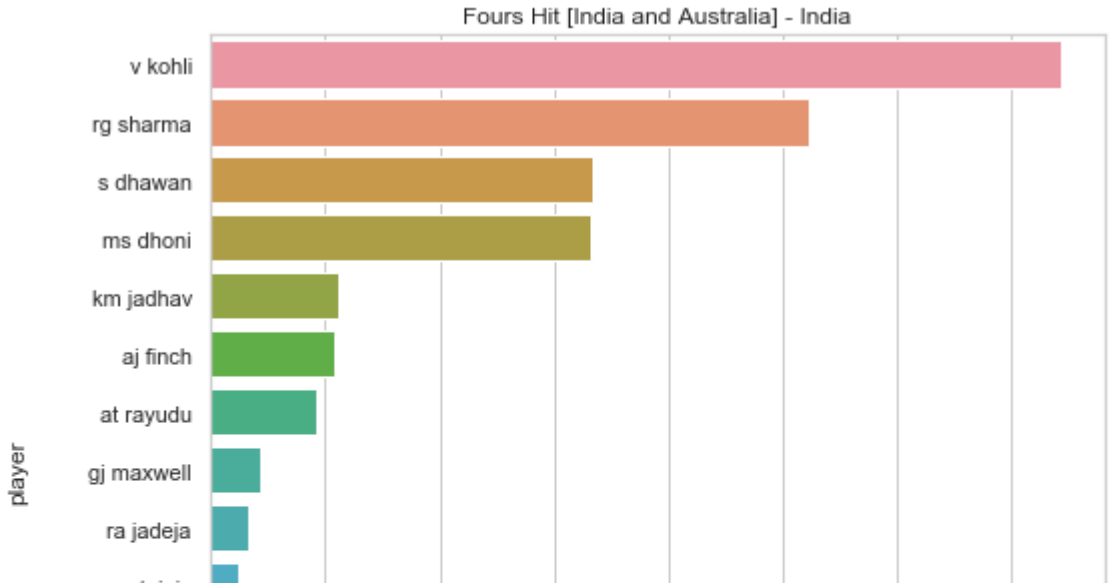


Fig 5.5 - Fours Hit [India vs Australia]

	player	fours
9	rg sharma	5.33333
0	aj finch	4.63158
10	s dhawan	4.61111
13	v kohli	4.22222
11	se marsh	4.14286
4	km jadhav	3.66667
12	ut khawaja	3.66667
3	gj maxwell	2.94444
1	at carey	2.66667
5	mp stoinis	2.25
7	psp handscomb	2.16667
6	ms dhoni	2.125
2	at rayudu	1.33333
8	ra jadeja	0.538462

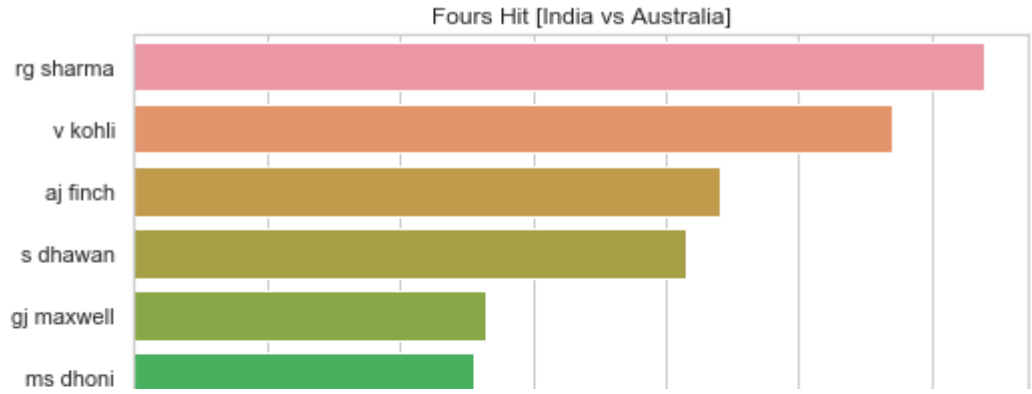


Fig 5.6 - Fours Hit [India and Australia] - India

	player	fours
0	aj finch	6
10	rg sharma	5.67391
12	s dhawan	5.21875
14	v kohli	5.09589
1	at rayudu	4.18182
5	km jadhav	3.5
7	ms dhoni	2.96429
11	rr pant	2.5
3	gj maxwell	2.44444
6	mp stoinis	2.4
2	b kumar	1
4	kl rahul	1
8	psp handscomb	1
9	ra jadeja	0.8
13	se marsh	0

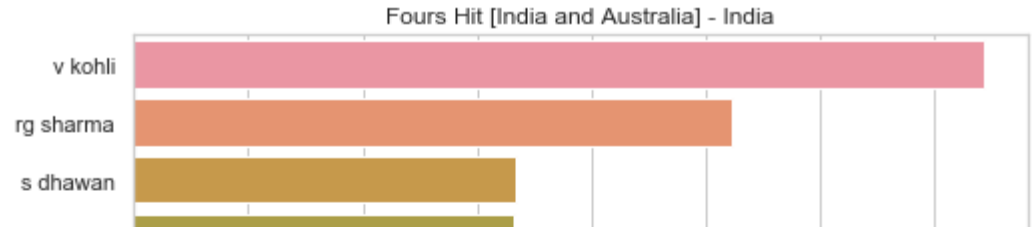


Fig 5.7 - Sixes Hit [India and Australia] - India

	player	sixes
3	gj maxwell	2.44444
10	rg sharma	2.13043
0	aj finch	1.33333
6	mp stoinis	1.2
7	ms dhoni	1.07143
1	at rayudu	1
5	km jadhav	0.75
14	v kohli	0.671233
11	rr pant	0.5
12	s dhawan	0.40625
4	kl rahul	0.333333
8	psp handscomb	0.333333
9	ra jadeja	0.2
2	b kumar	0
13	se marsh	0

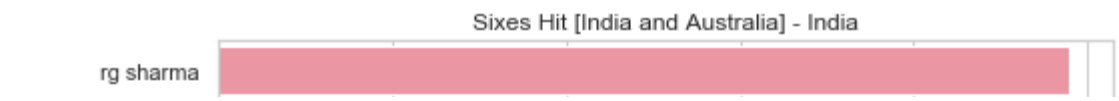


Fig 5.8 - Sixes Hit [India vs Australia]

	player	sixes
9	rg sharma	2.75
3	gj maxwell	1.61111
5	mp stoinis	1
0	aj finch	0.947368
6	ms dhoni	0.875
13	v kohli	0.555556
7	psp handscomb	0.5
11	se marsh	0.428571
2	at rayudu	0.333333
4	km jadhav	0.333333
10	s dhawan	0.333333
1	at carey	0
8	ra jadeja	0
12	ut khawaja	0

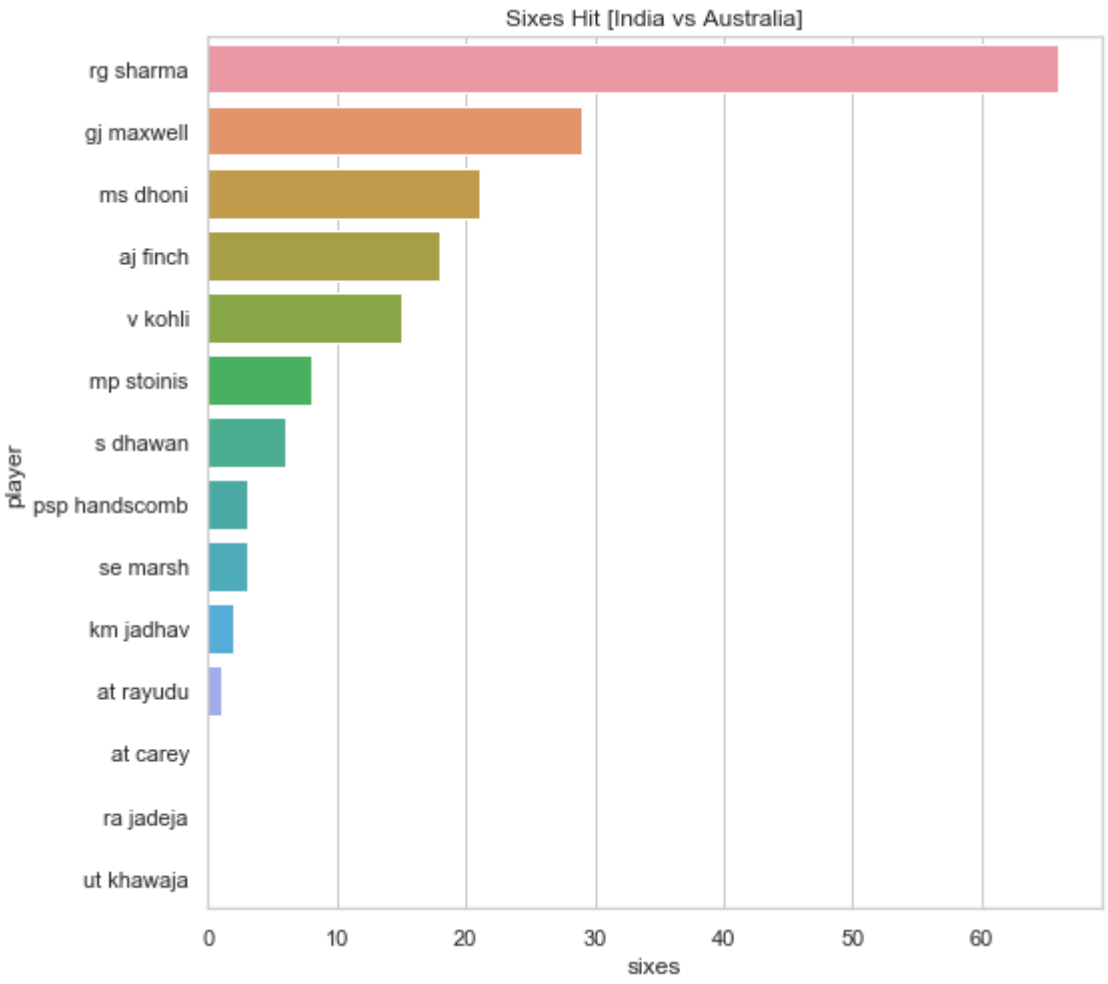


Fig 5.9 - Sixes Hit [India and Australia] - India

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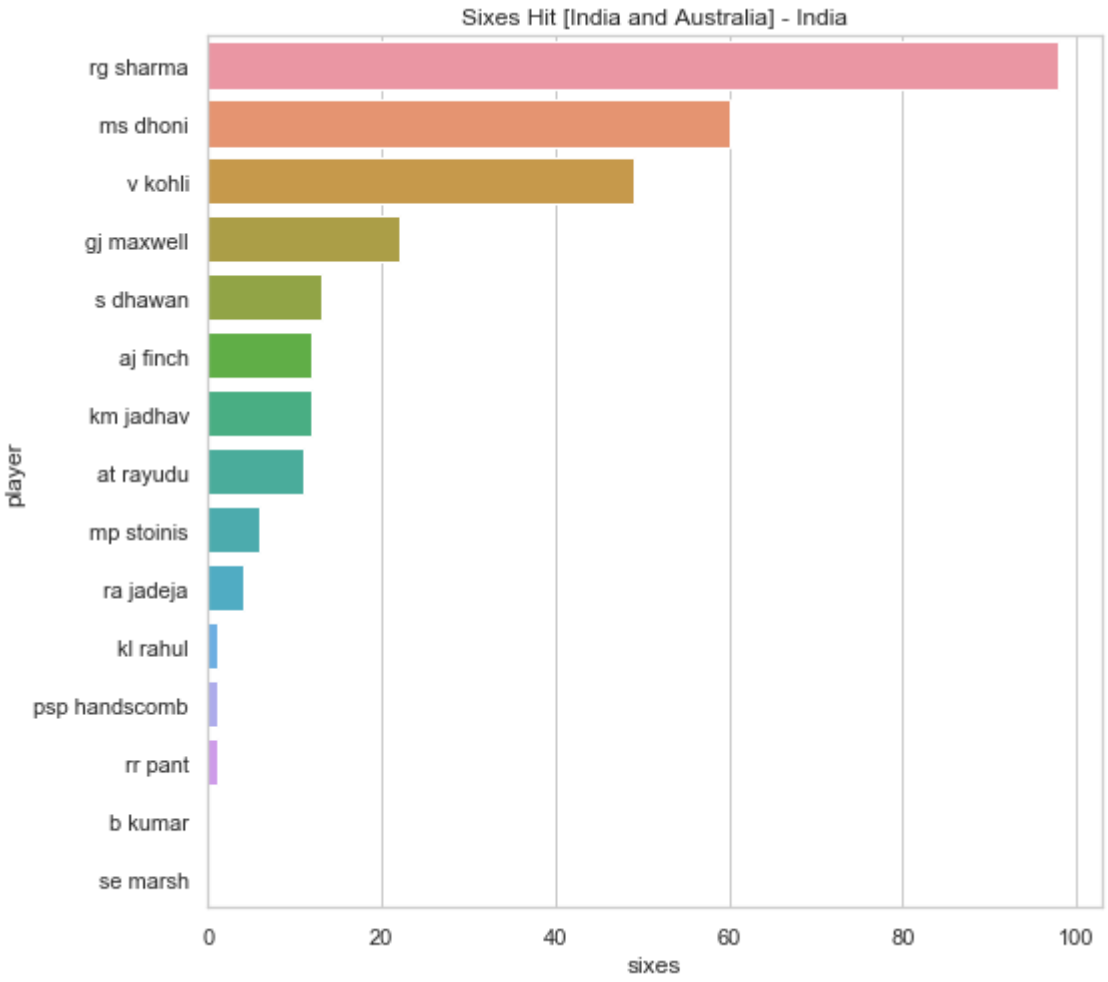
	player	sixes
3	gj maxwell	2.44444
10	rg sharma	2.13043
0	aj finch	1.33333
6	mp stoinis	1.2
7	ms dhoni	1.07143
1	at rayudu	1
5	km jadhav	0.75
14	v kohli	0.671233
11	rr pant	0.5
12	s dhawan	0.40625
4	kl rahul	0.333333
8	psp handscomb	0.333333
9	ra jadeja	0.2
2	b kumar	0
13	se marsh	0



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6. Bowling Stats since year 2010

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Fig 6.1 - Wickets [India and Australia] - Historical Data

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	player	wickets
18	ra jadeja	161
4	b kumar	114
12	mohammed shami	108
8	jj bumrah	78
11	kuldeep yadav	77
24	ys chahal	71
17	pj cummins	65
6	gj maxwell	46
0	a zampa	42
15	nm coulter-nile	38
10	km jadhav	25
13	mp stoinis	22
16	nm lyon	18
7	ja richardson	13
2	aj tye	12
19	rg sharma	6
21	sn thakur	6
22	v kohli	4
9	jp behrendorff	3
3	at rayudu	3
1	aj finch	2
14	ms dhoni	0
5	djm short	0
20	s kaul	0
23	v shankar	0

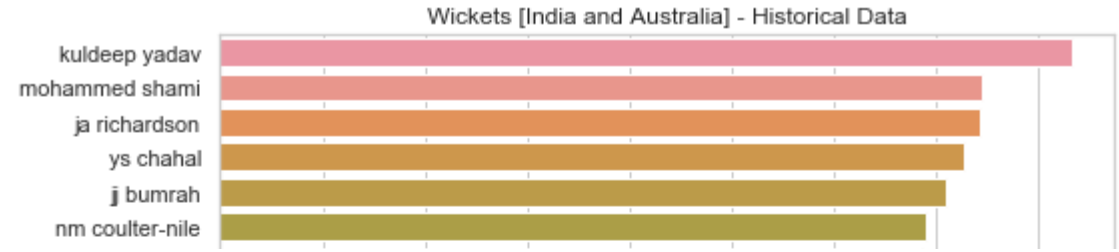


Fig 6.2 - Wickets [India vs Australia]

	player	wickets
3	b kumar	16
15	ra jadeja	14
10	mohammed shami	13
19	ys chahal	12
12	nm coulter-nile	10
9	kuldeep yadav	9
6	jj bumrah	7
5	ja richardson	6
11	mp stoinis	6
14	pj cummins	4
0	a zampa	4
7	jp behrendorff	3
4	gj maxwell	2
8	km jadhav	2
1	aj finch	2
16	rg sharma	2
13	nm lyon	1
2	at rayudu	0
17	v kohli	0
18	v shankar	0

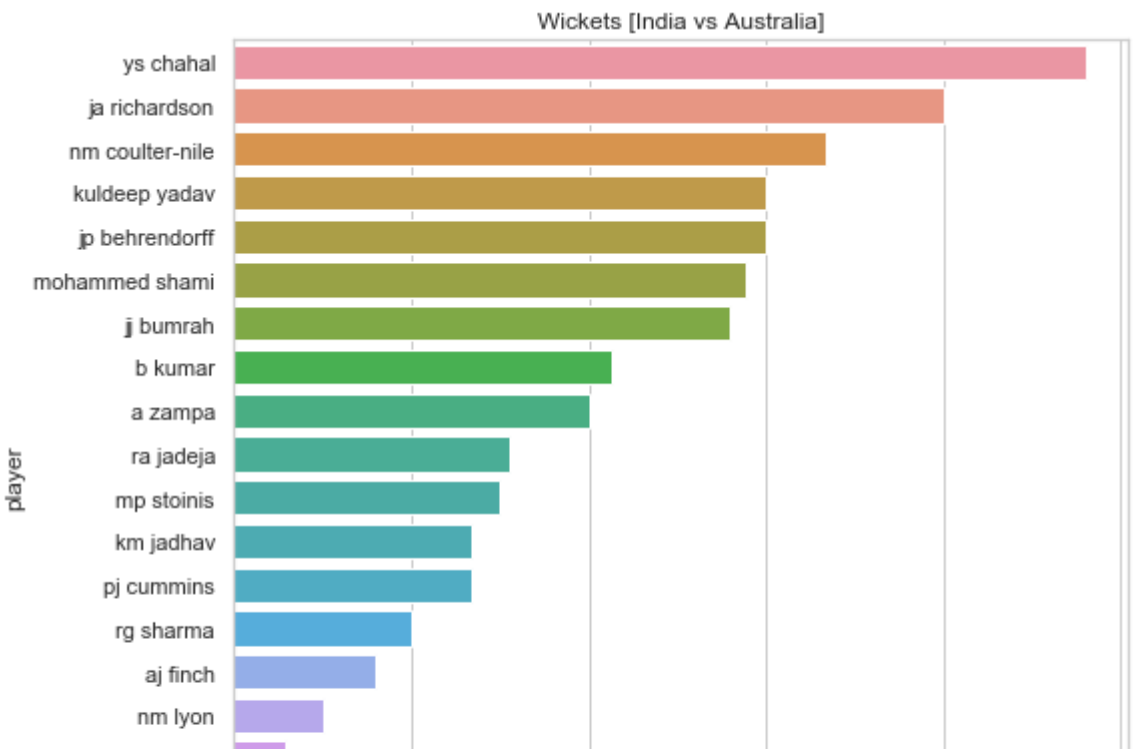
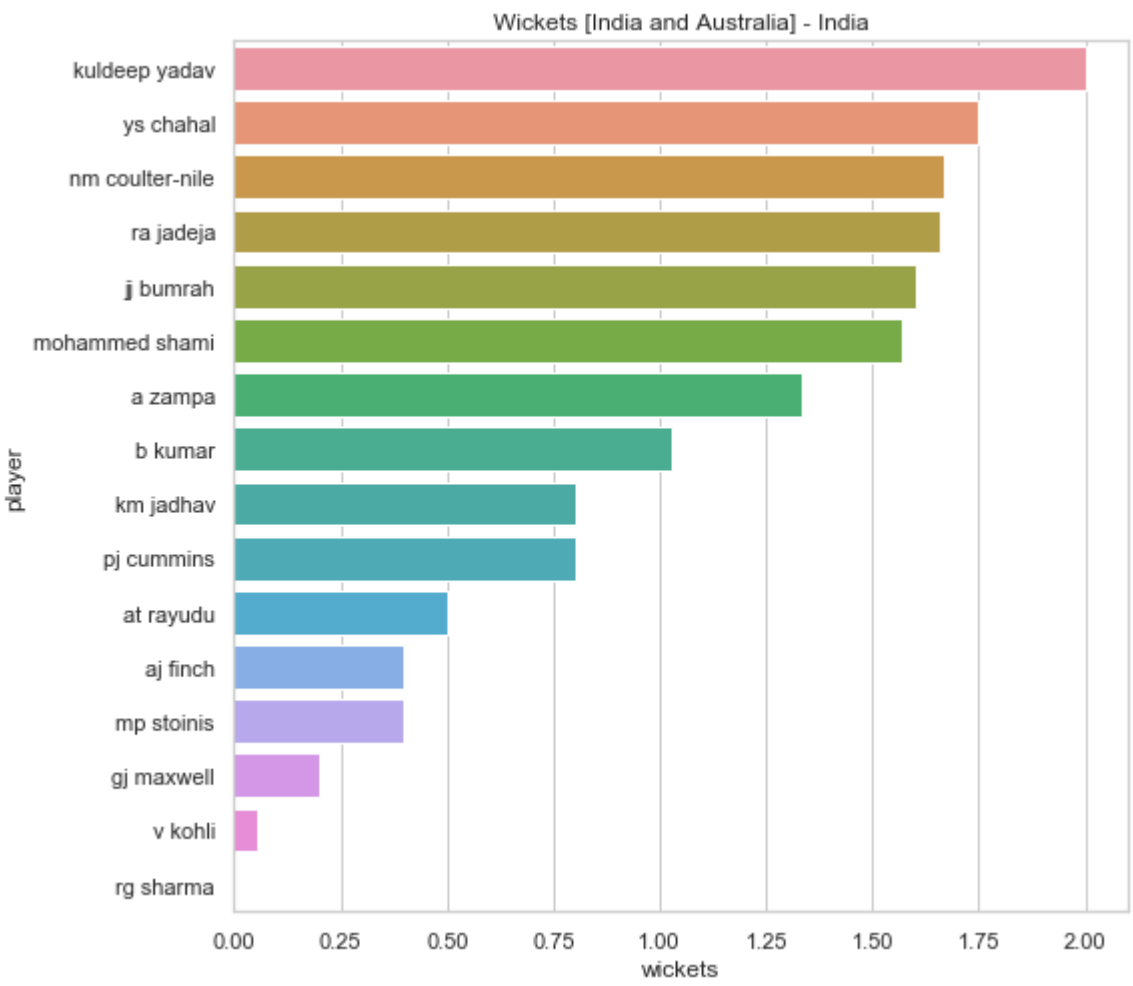


Fig 6.3 - Wickets [India and Australia] - India

	player	wickets
12	ra jadeja	63
3	b kumar	37
5	jj bumrah	32
8	mohammed shami	22
15	ys chahal	21
7	kuldeep yadav	20
10	nm coulter-nile	10
6	km jadhav	8
0	a zampa	4
11	pj cummins	4
1	aj finch	2
9	mp stoinis	2
2	at rayudu	1
4	gj maxwell	1
14	v kohli	1
13	rg sharma	0


Wickets [India and Australia] - India
kuldeep yadav
ys chahal
nm coulter-nile
ra jadeja
jj bumrah
mohammed shami
a zampa
b kumar
km jadhav
pj cummins
at rayudu
aj finch
mp stoinis
gj maxwell
v kohli
rg sharma
player
0.00
0.25
0.50
0.75
1.00
1.25
1.50
1.75
2.00
wickets