



## Advanced Database System Assignment 02

Department: Computer Science and Engineering

Semester: Spring-2018

Course Code: CSE-464

Section No: 01

Title: Test Batsman Data Analysis using Python

### Group Members:

Name	Id	POT
Saidur Rahman	2014-1-60-067	1
MD. Farhan Tanvir	2014-2-60-124	2
S. M. Ruhul Kabir Howlader	2014-2-60-089	3
Al-Amin	2014-2-60-061	4

### Submitted To:

Dr. Mohammad Rezwanul Huq

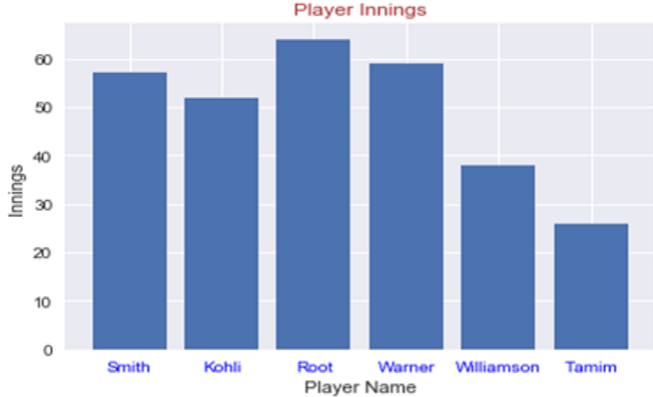
Assistant Professor

Department of Computer Science & Engineering

**Date of Submission:** 27<sup>th</sup> March 2018

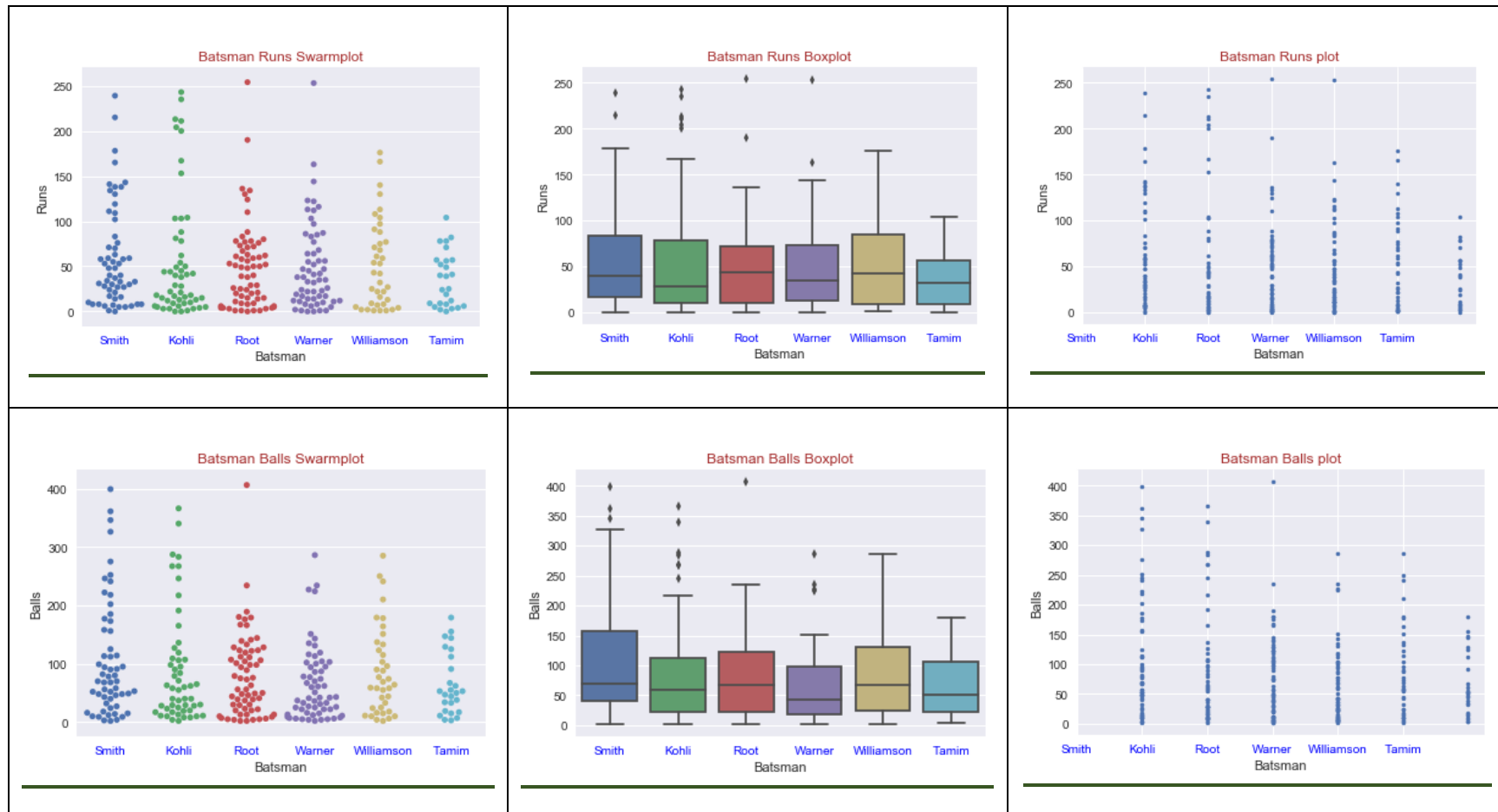
**Identify the players by their data:**

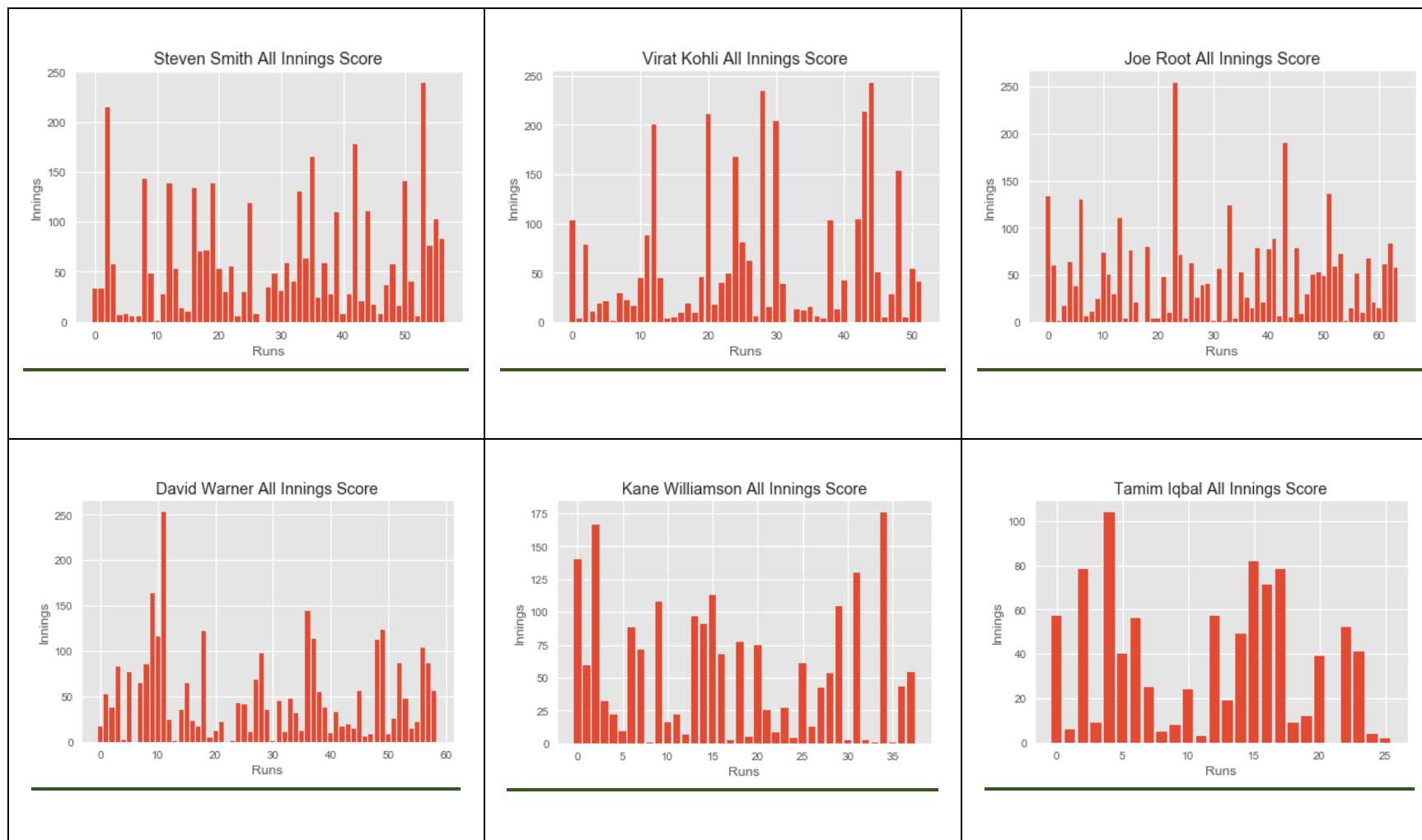
*In this table, we find the total innings played by each player. Comparing each player data we said that these six players are Steven Smith, Virat Kohli, Joe Root, David Warner, Kane Williamson and Tamim Iqbal. The entire career innings are not considered in the dataset. From July 2015 to February 2018 data are only considered. Confirmation references to identifying the each of the players are also given here.*

<b>Player No</b>	<b>Player Name</b>	<b>Country</b>	<b>Innings Played</b>	<b>Reference</b>	
1	Steven Smith	Australia	57	1	
2	Virat Kohli	India	52	2	
3	Joe Root	England	64	3	
4	David Warner	Australia	59	4	
5	Kane Williamson	New Zealand	38	5	
6	Tamim Iqbal	Bangladesh	26	6	

**Comment:** After analyzing the data we can say that Joe Root played maximum matches and Tamim Iqbal played minimum matches. Because England played maximum matches and Bangladesh played minimum test matches.

## All player runs and balls visualization:

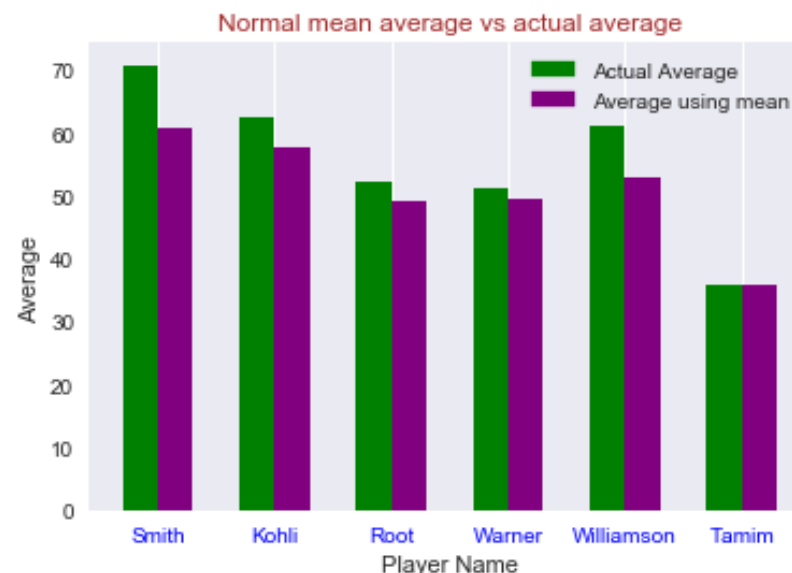


All players all innings score:

### Comparing the player average runs:

*In this table, we compare the average runs of each player.*

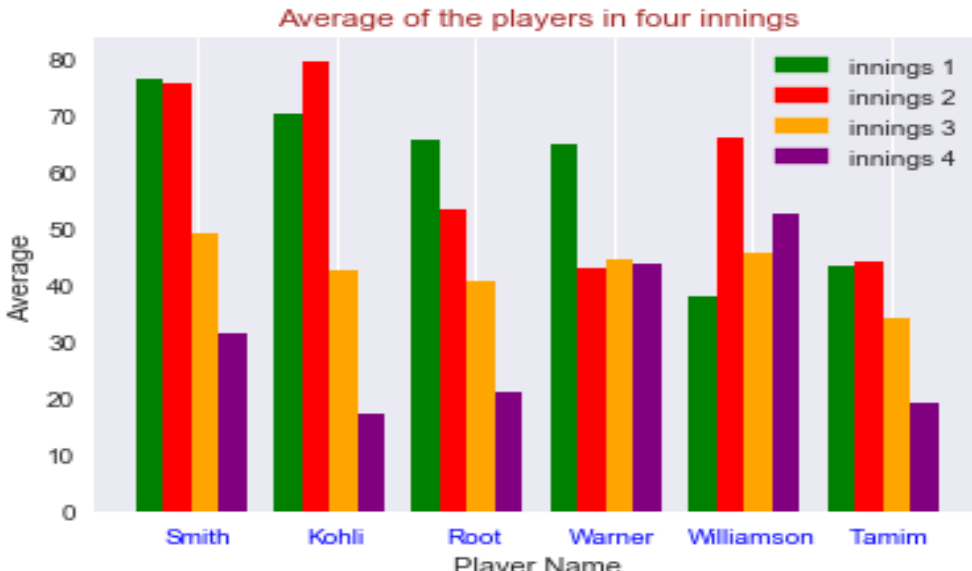
<i>Player Name</i>	<i>Average (using mean)</i>	<i>Average (actual rule)</i>
Steven Smith	60.88	70.82
Virat Kohli	57.55	62.35
Joe Root	49.08	52.35
David Warner	49.41	51.14
Kane Williamson	53.03	61.06
Tamim Iqbal	35.77	35.77



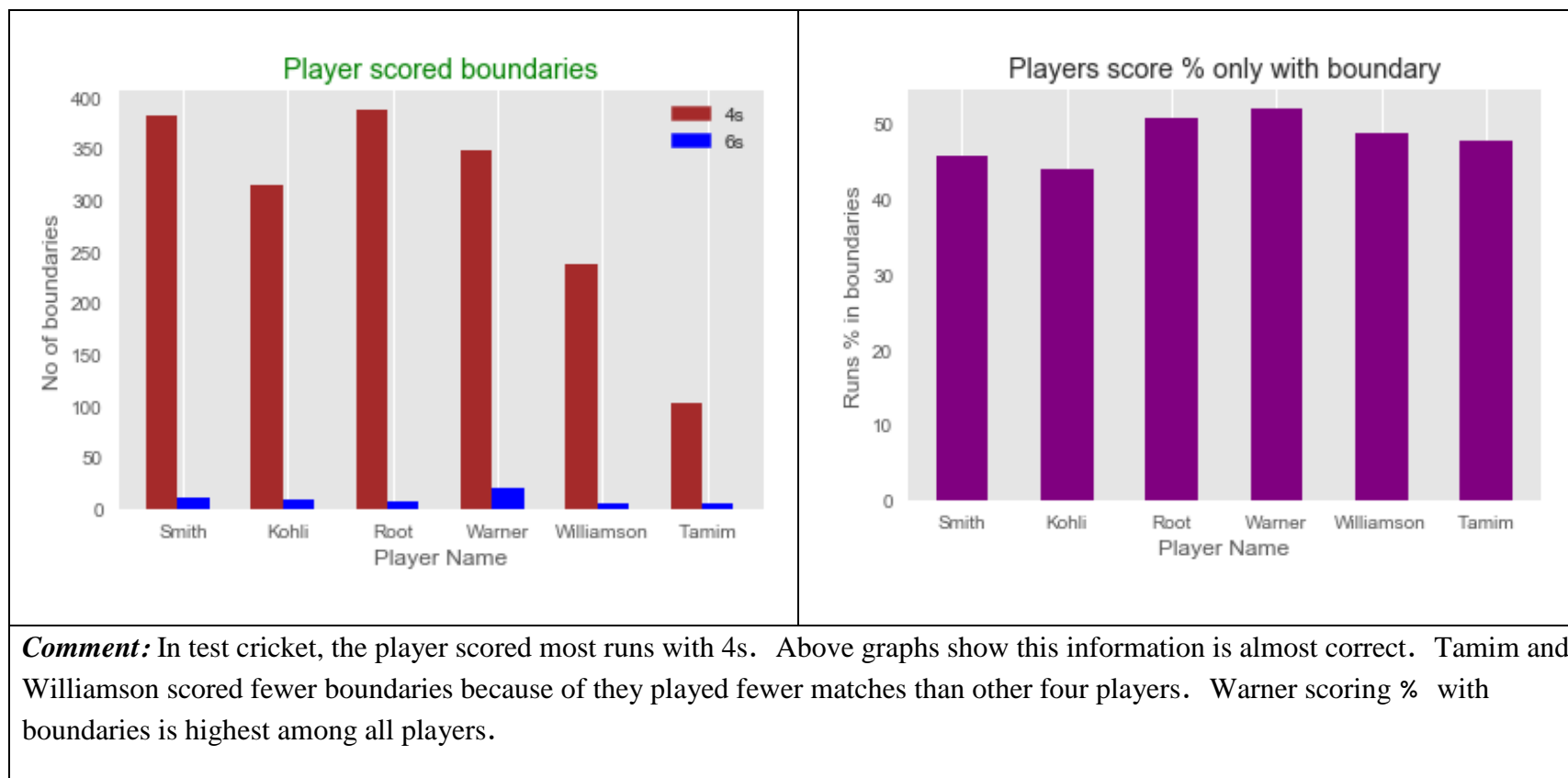
**Comment:** Here we can see that Steven Smith have the highest average among all players. We calculate average runs by two ways. One way is using the mean of each innings runs and another way is the international system to find the average runs. In international system, average count is sum all the matches run and then divide it by the number of times batsman out. So, in actual rule average of each player is higher than using the mean. Tamim Iqbal has zero not out so his both average is the same. If we sort the players from best to worst using the average score then it will **Steven Smith > Virat Kohli > Kane Williamson > Joe Root > David Warner > Tamim Iqbal**

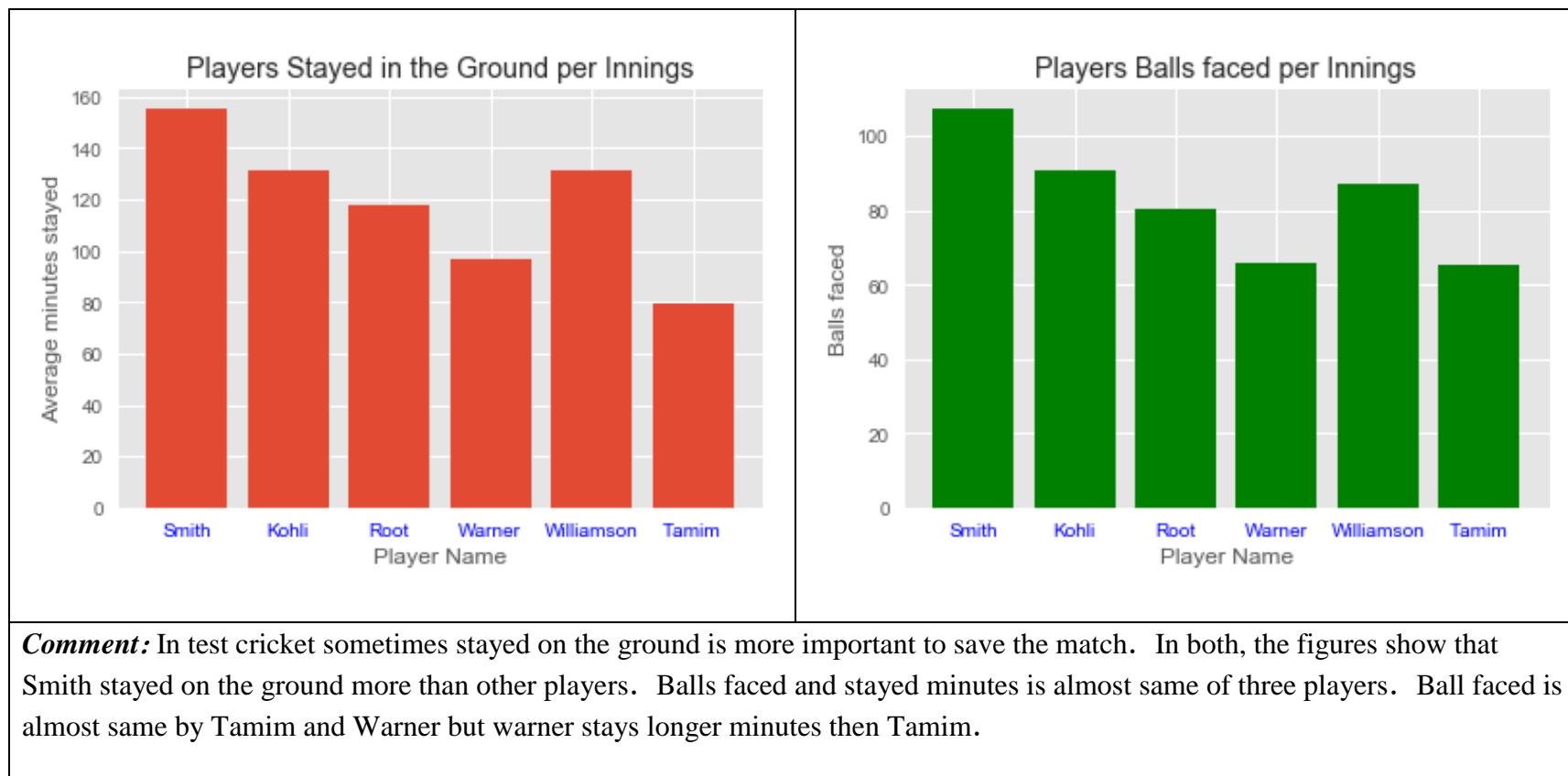
### Comparing the player average runs in four innings:

*In this table, we compare the average runs of each player in four innings.*

<i>Player Name</i>	 <p>Average of the players in four innings</p> <p>Legend: Innings 1 (Green), Innings 2 (Red), Innings 3 (Yellow), Innings 4 (Purple)</p> <p>Y-axis: Average (0 to 80)</p> <p>X-axis: Player Name (Smith, Kohli, Root, Warner, Williamson, Tamim)</p>			
Steven Smith	76	75	49	32
Virat Kohli	70	79	43	18
Joe Root	66	54	41	22
David Warner	65	43	45	44
Kane Williamson	38	66	46	53
Tamim Iqbal	44	44	35	20

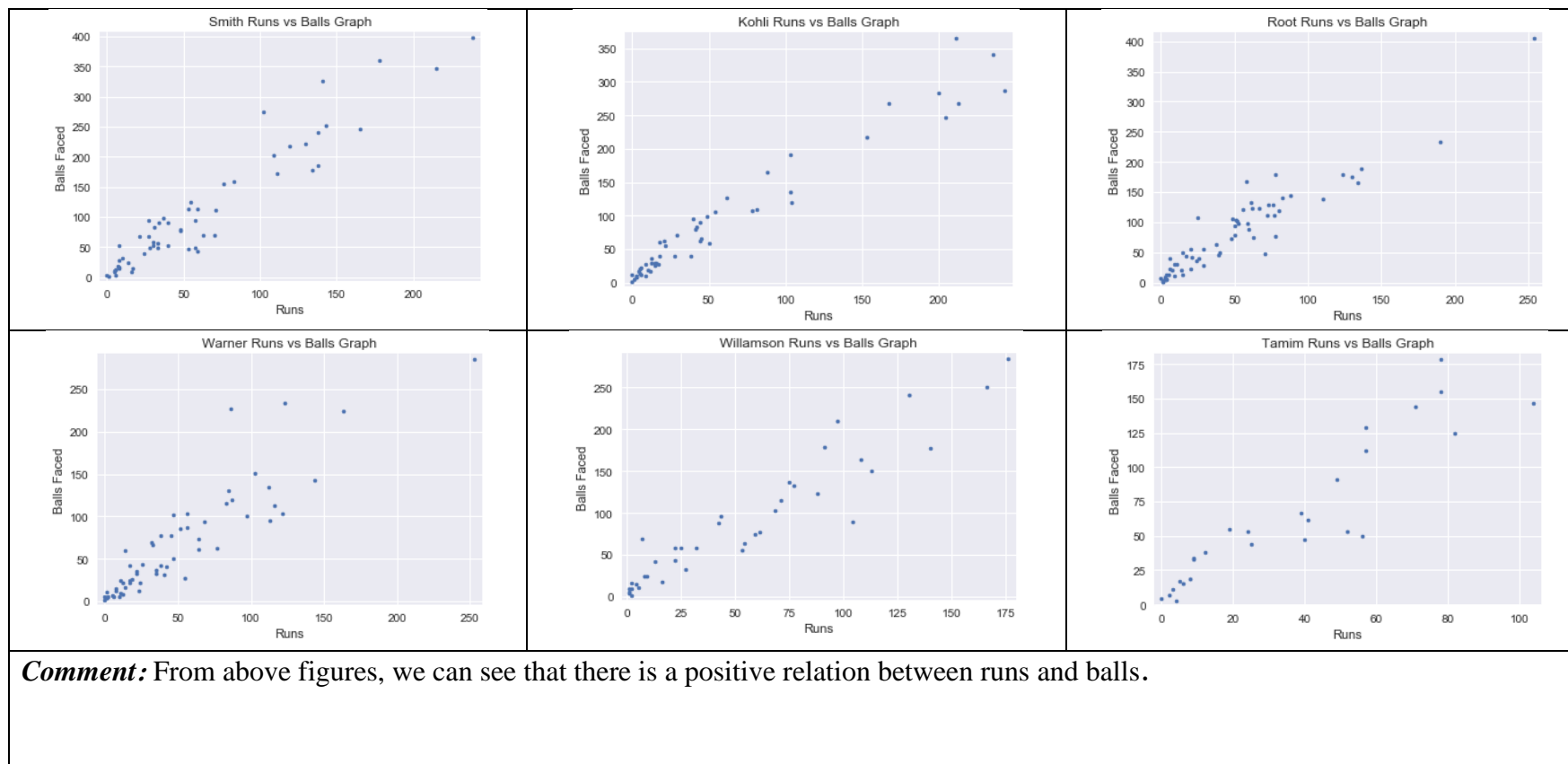
**Comment:** In this above picture we can see that average of the players is changing depending upon the innings. Fourth Innings average is much lower because in the test cricket pitch condition is changing day to day. If pitch condition is favorable for the bat on day 1 then for the ball on day 5. Pitch condition almost every time changes to batting to balling favorable after each day passes.

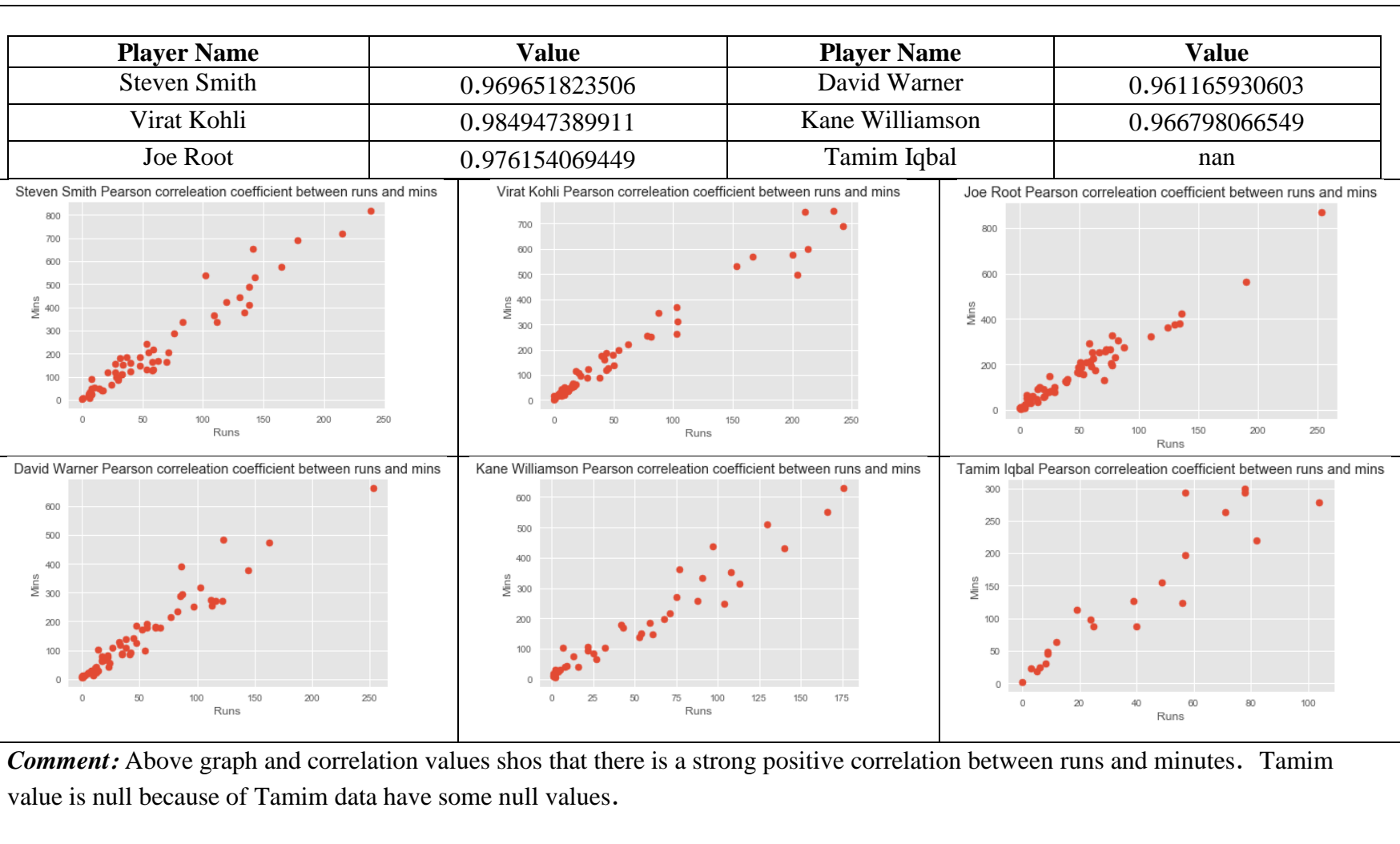
All players run in Boundaries:

All players present in the ground status:

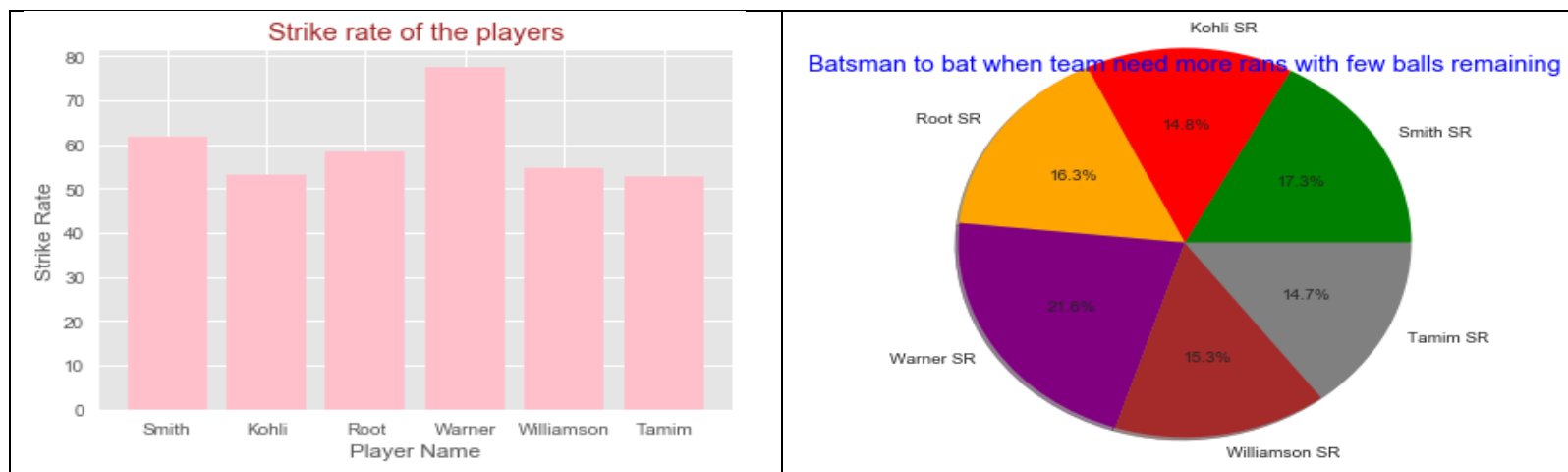


### The plot of runs and balls:



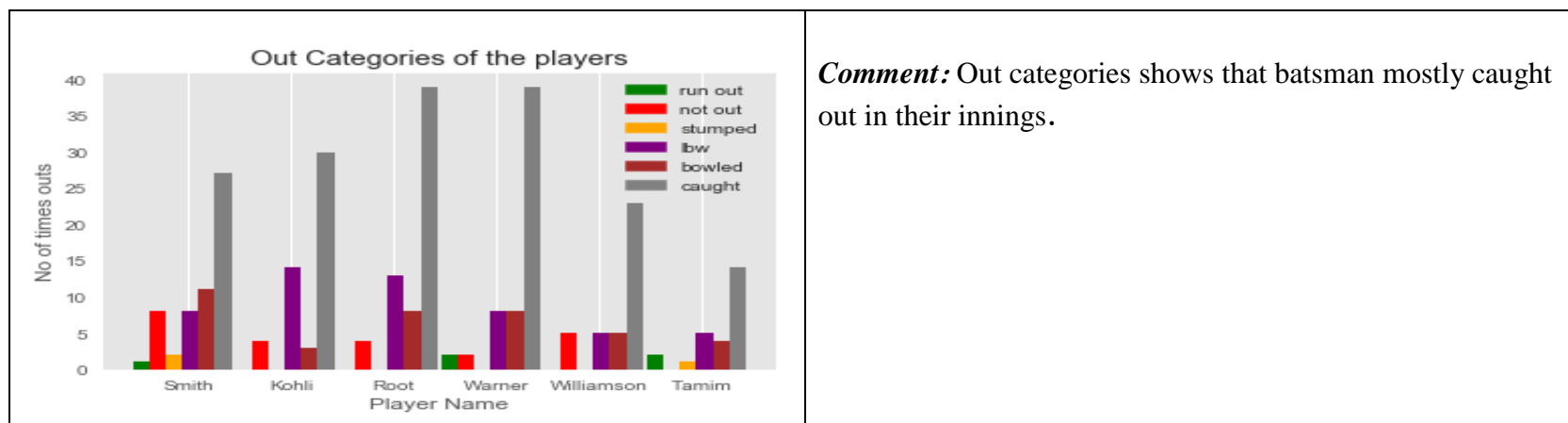
**Pearson correlation coefficient between runs and mins:**

## Players strike rates:



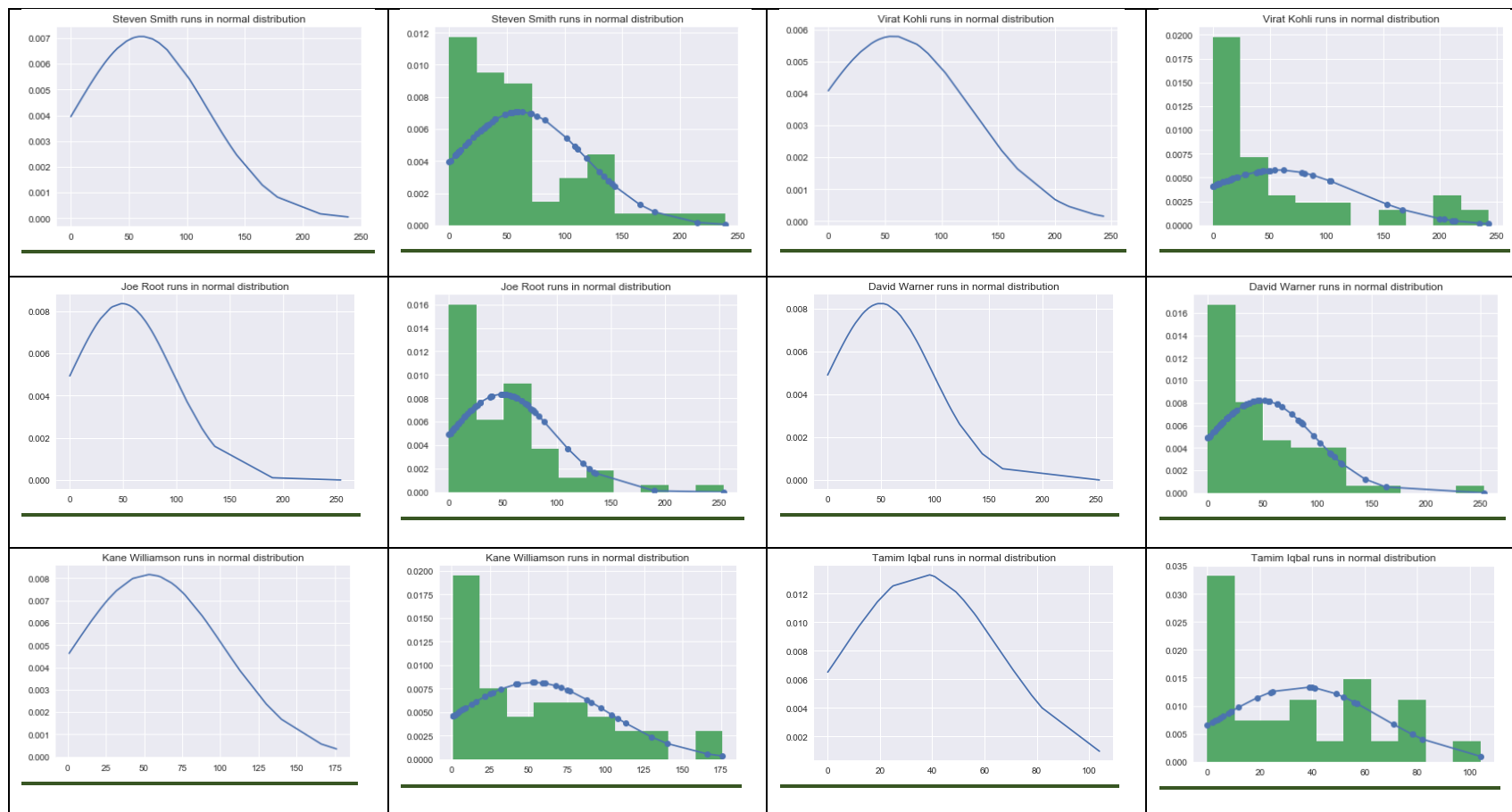
**Comment:** Strike rate of the players shows how fast he can score runs. Above figures show that David Warner scored runs so fast. He can score more runs when teams needed runs in fewer balls.

## Players out Categories:



**Comment:** Out categories shows that batsman mostly caught out in their innings.

## All player normal distribution figures:



**All player normal and t distribution with 90% confidence interval:**

<i>Player Name</i>	<b>t- distribution</b>			<b>Normal distribution</b>		
	<i>Mean</i>	<i>Lower Value</i>	<i>Upper Value</i>	<i>Mean</i>	<i>Lower Value</i>	<i>Upper Value</i>
Steven Smith	60.88	51.09	70.66	60.88	51.29	70.46
Virat Kohli	57.56	45.04	70.07	57.56	45.32	69.79
Joe Root	49.08	41.29	56.87	49.08	41.43	56.73
David Warner	49.41	41.16	57.65	49.41	41.32	57.49
Kane Williamson	53.03	42.55	63..50	53.03	42.87	63.18
Tamim Iqbal	35.77	27.97	43.61	35.77	28.29	43.25
<b>Comment:</b> In 90% confidence interval, we can say that if a player plays any match his score is in between lower value to the upper value in 90% time.						

**Conclusion:**

After analyzing all the data and charts we find various relations among the different data. These data are taken from the top five test batsman and best Bangladeshi batsman Tamim Iqbal recent test matches ( July 2015 to February 2018 ). Steven Smith is the top test batsman in current test rankings. In the above analysis, we had seen that he is the most consistent player among the six players. Tamim Iqbal is the most inconsistent player among all the players. Because Bangladesh played few test matches in the recent years. They need to play more test matches to improve their playing skills.

**Player Confirmation References:**

1	Steven Smith	Australia	<a href="http://stats.espncricinfo.com/ci/engine/player/267192.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings">http://stats.espncricinfo.com/ci/engine/player/267192.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings</a>
2	Virat Kohli	India	<a href="http://stats.espncricinfo.com/ci/engine/player/253802.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings">http://stats.espncricinfo.com/ci/engine/player/253802.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings</a>
3	Joe Root	England	<a href="http://stats.espncricinfo.com/ci/engine/player/303669.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings">http://stats.espncricinfo.com/ci/engine/player/303669.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings</a>
4	David Warner	Australia	<a href="http://stats.espncricinfo.com/ci/engine/player/219889.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings">http://stats.espncricinfo.com/ci/engine/player/219889.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings</a>
5	Kane Williamson	New Zealand	<a href="http://stats.espncricinfo.com/ci/engine/player/277906.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings">http://stats.espncricinfo.com/ci/engine/player/277906.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings</a>
6	Tamim Iqbal	Bangladesh	<a href="http://stats.espncricinfo.com/ci/engine/player/56194.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings">http://stats.espncricinfo.com/ci/engine/player/56194.html?class=1;spanmin1=01+Jul+2015;spanval1=span;template=results;type=batting;view=innings</a>