

## The CONTENTS Procedure

Data Set Name	WORK.IMPORT	Observations	25697
Member Type	DATA	Variables	29
Engine	V9	Indexes	0
Created	06/04/2019 18:46:59	Observation Length	304
Last Modified	06/04/2019 18:46:59	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

### Engine/Host Dependent Information

Data Set Page Size	65536
Number of Data Set Pages	120
First Data Page	1
Max Obs per Page	215
Obs in First Data Page	195
Number of Data Set Repairs	0
Filename	/tmp/SAS_workEFCE00002FAF_localhost.localdomain/SAS_workE5CC00002FAF_localhost.localdomain/import.sas7bdat
Release Created	9.0401M6
Host Created	Linux
Inode Number	542366
Access Permission	rw-rw-r--
Owner Name	sasdemo
File Size	8MB
File Size (bytes)	7929856

### Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Informat	Label
2	action_type	Char	31	\$31.	\$31.	action_type
28	arena_temp	Num	8	BEST.		arena_temp
27	attendance	Num	8	BEST.		attendance
29	avgnoisedb	Num	8	BEST.		avgnoisedb
3	combined_shot_type	Char	9	\$9.	\$9.	combined_shot_type
23	game_date	Num	8	BEST.		game_date
4	game_event_id	Num	8	BEST.		game_event_id
5	game_id	Num	8	BEST.		game_id
6	lat	Num	8	BEST.		lat
7	loc_x	Num	8	BEST.		loc_x
8	loc_y	Num	8	BEST.		loc_y

## The CONTENTS Procedure

Alphabetic List of Variables and Attributes						
#	Variable	Type	Len	Format	Informat	Label
9	lon	Num	8	BEST.		lon
24	matchup	Char	11	\$11.	\$11.	matchup
10	minutes_remaining	Num	8	BEST.		minutes_remaining
25	opponent	Char	3	\$3.	\$3.	opponent
11	period	Num	8	BEST.		period
12	playoffs	Num	8	BEST.		playoffs
1	recId	Num	8	BEST.		recId
13	season	Char	7	\$7.	\$7.	season
14	seconds_remaining	Num	8	BEST.		seconds_remaining
15	shot_distance	Num	8	BEST.		shot_distance
26	shot_id	Num	8	BEST.		shot_id
16	shot_made_flag	Num	8	BEST.		shot_made_flag
17	shot_type	Char	14	\$14.	\$14.	shot_type
18	shot_zone_area	Char	21	\$21.	\$21.	shot_zone_area
19	shot_zone_basic	Char	21	\$21.	\$21.	shot_zone_basic
20	shot_zone_range	Char	15	\$15.	\$15.	shot_zone_range
21	team_id	Num	8	BEST.		team_id
22	team_name	Char	18	\$18.	\$18.	team_name

### The MEANS Procedure

Variable	Label	Mean	Mode	Std Dev	Minimum	Maximum	N
recId	recId	15326.18	.	8860.25	1.0000000	30692.00	25697
game_event_id	game_event_id	249.3486788	2.0000000	149.7785195	2.0000000	653.0000000	25697
game_id	game_id	24741090.78	21501228.00	7738107.84	20000012.00	49900088.00	25697
lat	lat	33.9530427	34.0443000	0.0881521	33.2533000	34.0883000	25697
loc_x	loc_x	7.1484220	0	110.0731466	-250.0000000	248.0000000	25697
loc_y	loc_y	91.2573452	0	88.1521064	-44.0000000	791.0000000	25697
lon	lon	-118.2626516	-118.2698000	0.1100731	-118.5198000	-118.0218000	25697
minutes_remaining	minutes_remaining	4.8867961	0	3.4524754	0	11.0000000	25697
period	period	2.5208001	3.0000000	1.1516261	1.0000000	7.0000000	25697
playoffs	playoffs	0.1462428	0	0.3533563	0	1.0000000	25697
seconds_remaining	seconds_remaining	28.3115539	0	17.5233918	0	59.0000000	25697
shot_distance	shot_distance	13.4570962	0	9.3887248	0	79.0000000	25697
shot_made_flag	shot_made_flag	0.4461610	0	0.4971026	0	1.0000000	25697
team_id	team_id	1610612747	1610612747	0	1610612747	1610612747	25697
game_date	game_date	38915.07	42473.00	1765.69	35372.00	42473.00	25697
shot_id	shot_id	15328.17	.	8860.46	2.0000000	30697.00	25697
attendance	attendance	15040.68	15286.00	1076.23	11065.00	20845.00	25697
arena_temp	arena_temp	70.1077169	71.0000000	2.0301648	64.0000000	79.0000000	25697
avgnoisedb	avgnoisedb	94.9513686	94.5000000	2.2817073	88.5600000	102.4300000	25697

### The FREQ Procedure

shot_made_flag				
shot_made_flag	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	14232	55.38	14232	55.38
1	11465	44.62	25697	100.00

Obs	recid	action_type	combined_shot_type	game_event_id	game_id	lat	loc_x	loc_y	lon	minutes_remaining
1	2	Jump Shot	Jump Shot	35	20000012	33.9093	-101	135	-118.3708	7
2	3	Jump Shot	Jump Shot	43	20000012	33.8693	138	175	-118.1318	6
3	12	Jump Shot	Jump Shot	4	20000019	33.9173	121	127	-118.1488	11
4	16	Jump Shot	Jump Shot	86	20000019	33.8523	62	192	-118.2078	0
5	18	Jump Shot	Jump Shot	244	20000019	33.9473	-132	97	-118.4018	11
6	20	Jump Shot	Jump Shot	265	20000019	33.9173	134	127	-118.1358	9
7	22	Running Jump Shot	Jump Shot	299	20000019	33.8943	-109	150	-118.3788	5
8	25	Jump Shot	Jump Shot	345	20000019	33.8483	-58	196	-118.3278	2

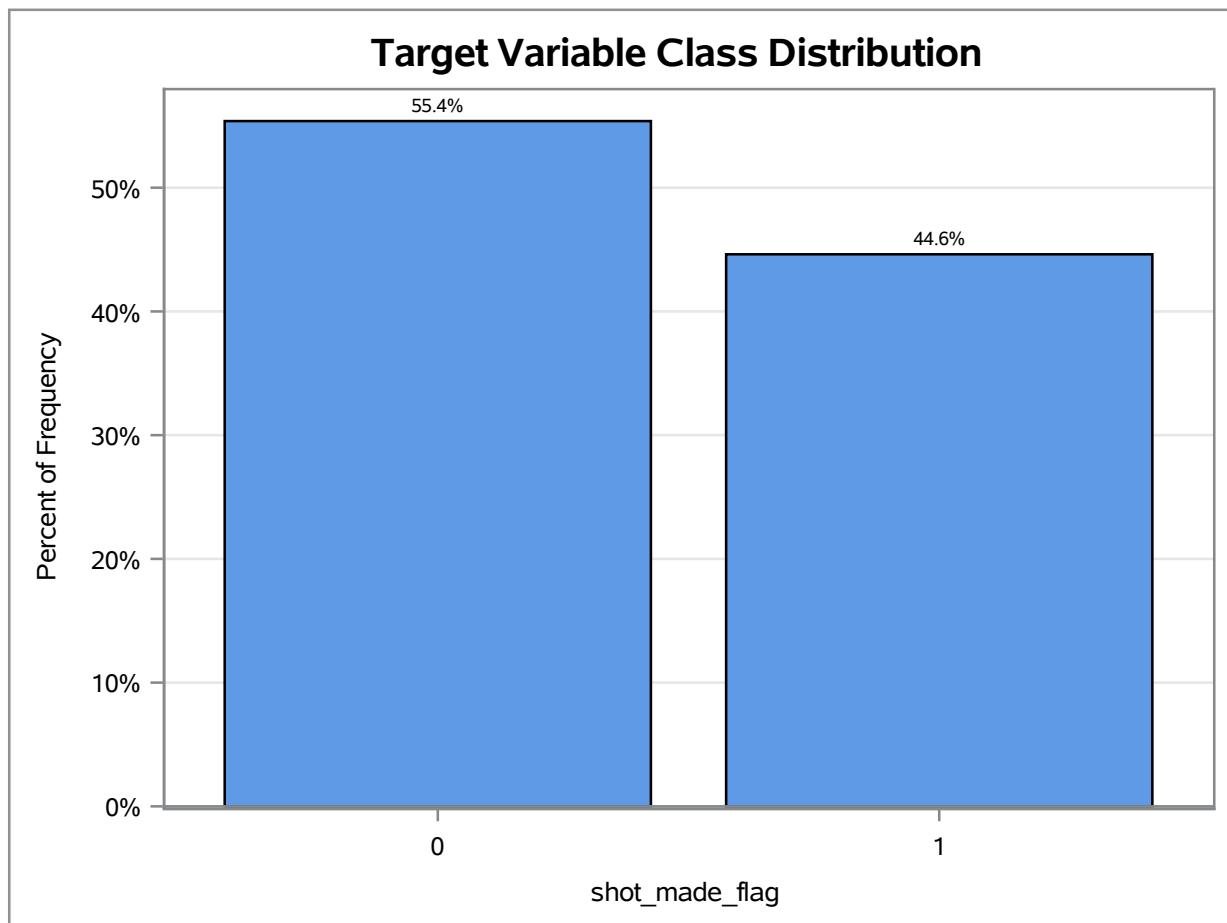
Obs	period	playoffs	season	seconds_remaining	shot_distance	shot_made_flag	shot_type	shot_zone_area	shot_zone_basic
1	1	0	2000-01	45	16	1	2PT Field Goal	Left Side Center(LC)	Mid-Range
2	1	0	2000-01	52	22	0	2PT Field Goal	Right Side Center(RC)	Mid-Range
3	1	0	2000-01	0	17	1	2PT Field Goal	Right Side Center(RC)	Mid-Range
4	1	0	2000-01	48	20	0	2PT Field Goal	Center(C)	Mid-Range
5	3	0	2000-01	29	16	0	2PT Field Goal	Left Side Center(LC)	Mid-Range
6	3	0	2000-01	4	18	0	2PT Field Goal	Right Side Center(RC)	Mid-Range
7	3	0	2000-01	47	18	1	2PT Field Goal	Left Side Center(LC)	Mid-Range
8	3	0	2000-01	4	20	0	2PT Field Goal	Center(C)	Mid-Range

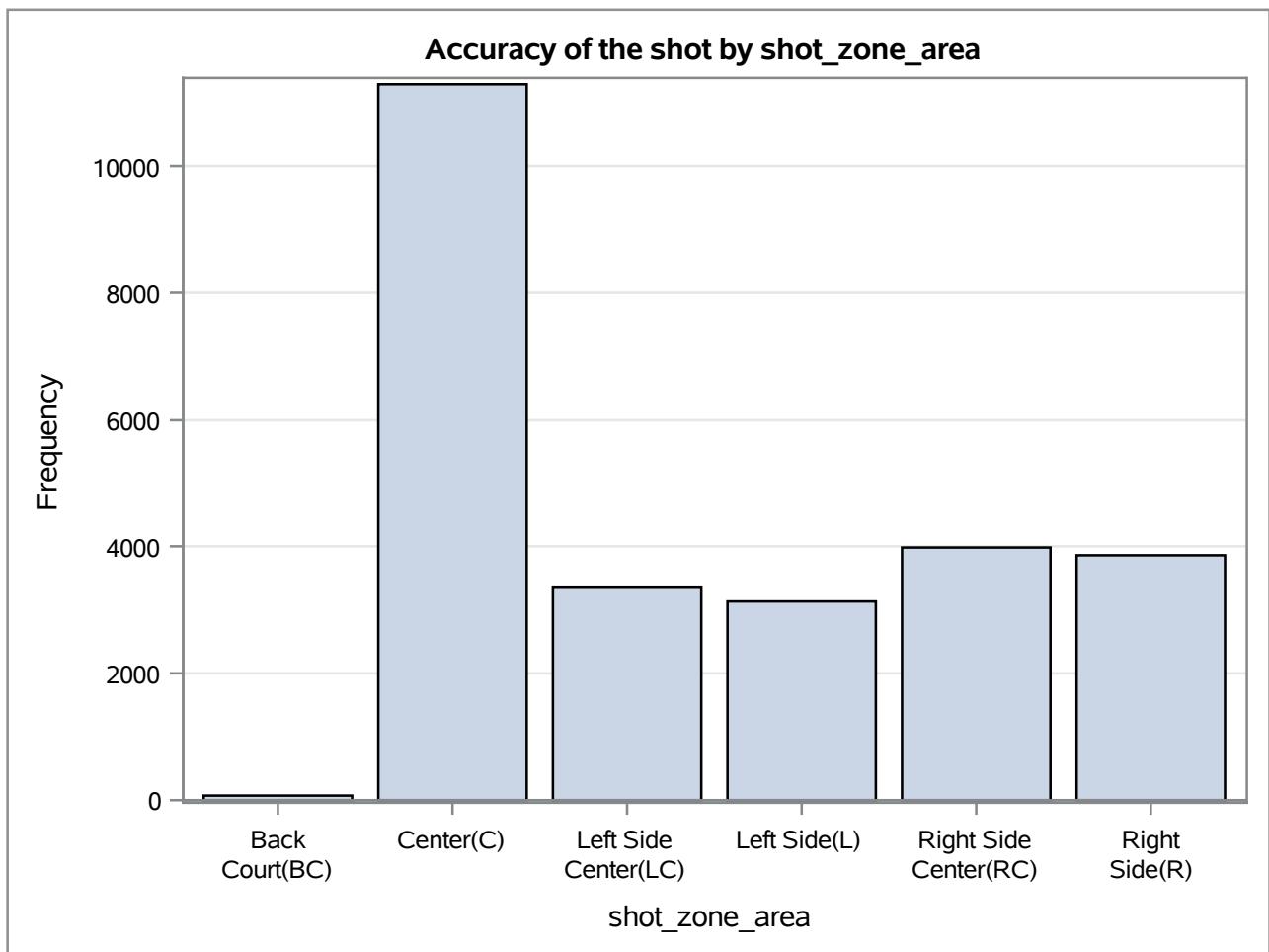
Obs	shot_zone_range	team_id	team_name	game_date	matchup	opponent	shot_id	attendance	arena_temp	avgnoidedb
1	16-24 ft.	1610612747	Los Angeles Lakers	36830	LAL @ POR	POR	3	14707	69	94.06
2	16-24 ft.	1610612747	Los Angeles Lakers	36830	LAL @ POR	POR	4	14707	69	94.06
3	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA	12	15851	69	95.71
4	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA	16	15851	69	95.71
5	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA	19	15851	69	95.71
6	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA	22	15851	69	95.71
7	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA	24	15851	69	95.71
8	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA	27	15851	69	95.71

Obs	recid	action_type	combined_shot_type	game_event_id	game_id	lat	loc_x	loc_y	lon	minutes_remaining
9	27	Jump Shot	Jump Shot	400	20000019	33.8713	85	173	-118.1848	8
10	33	Jump Shot	Jump Shot	184	20000047	33.8603	91	184	-118.1788	3

Obs	period	playoffs	season	seconds_remaining	shot_distance	shot_made_flag	shot_type	shot_zone_area	shot_zone_basic
9	4	0	2000-01	19	19	0	2PT Field Goal	Right Side Center(RC)	Mid-Range
10	2	0	2000-01	30	20	1	2PT Field Goal	Right Side Center(RC)	Mid-Range

Obs	shot_zone_range	team_id	team_name	game_date	matchup	opponent	shot_id	attendance	arena_temp	avgnoisedb
9	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA	29	15851	69	95.71
10	16-24 ft.	1610612747	Los Angeles Lakers	36834	LAL @ VAN	VAN	39	14081	72	95.09





**The MEANS Procedure**

shot_type	N Obs	Variable	Label	Mean	Std Dev	Minimum	Maximum	N
2PT Field Goal	20285	shot_distance shot_made_flag	shot_distance shot_made_flag	10.2163175 0.4773478	7.5595473 0.4994989	0 0	50.0000000 1.0000000	20285 20285
3PT Field Goal	5412	shot_distance shot_made_flag	shot_distance shot_made_flag	25.6040281 0.3292683	4.1749407 0.4699910	0 0	79.0000000 1.0000000	5412 5412

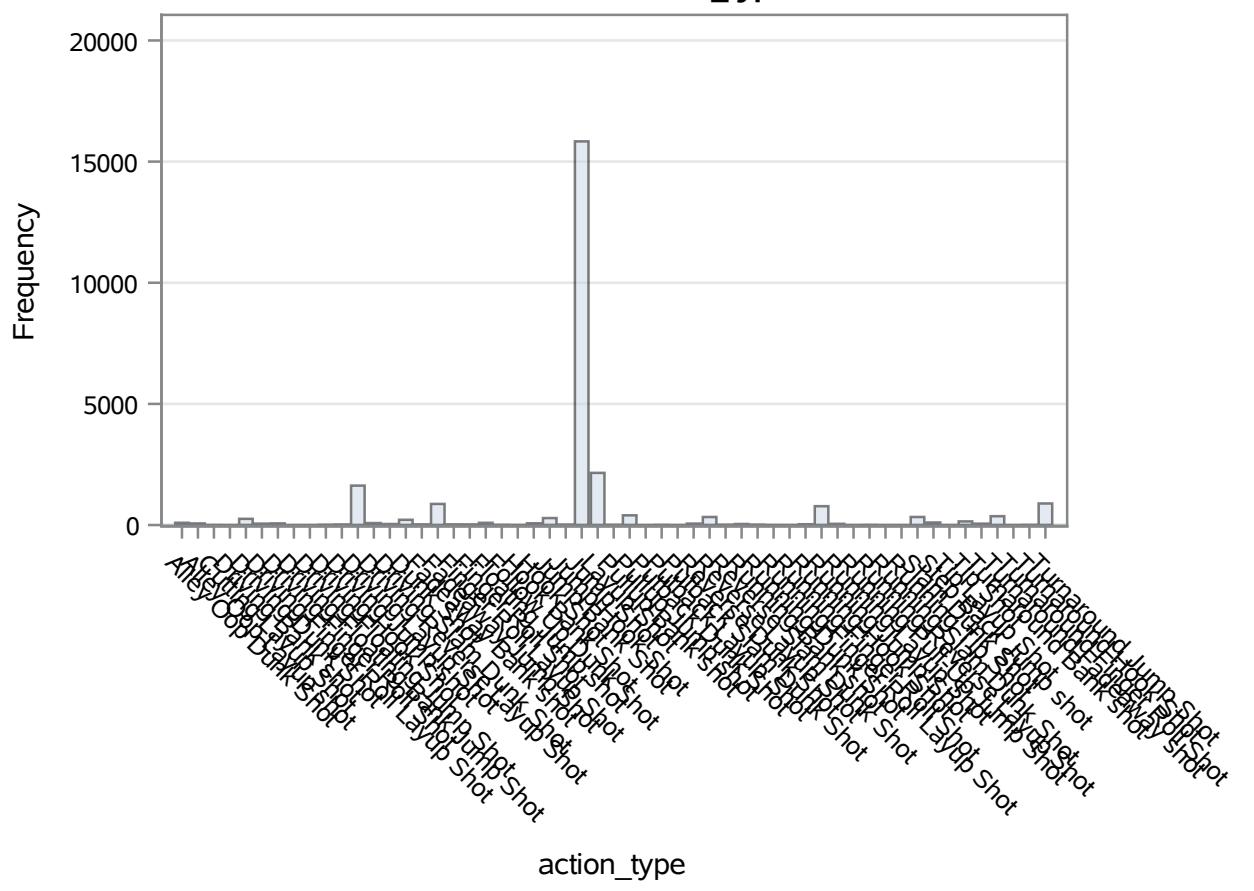
## The FREQ Procedure

action_type				
action_type	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Alley Oop Dunk Shot	95	0.37	95	0.37
Alley Oop Layup shot	67	0.26	162	0.63
Cutting Layup Shot	6	0.02	168	0.65
Driving Bank shot	3	0.01	171	0.67
Driving Dunk Shot	257	1.00	428	1.67
Driving Finger Roll Layup Shot	59	0.23	487	1.90
Driving Finger Roll Shot	68	0.26	555	2.16
Driving Floating Bank Jump Shot	1	0.00	556	2.16
Driving Floating Jump Shot	3	0.01	559	2.18
Driving Hook Shot	13	0.05	572	2.23
Driving Jump shot	23	0.09	595	2.32
Driving Layup Shot	1628	6.34	2223	8.65
Driving Reverse Layup Shot	83	0.32	2306	8.97
Driving Slam Dunk Shot	43	0.17	2349	9.14
Dunk Shot	217	0.84	2566	9.99
Fadeaway Bank shot	27	0.11	2593	10.09
Fadeaway Jump Shot	872	3.39	3465	13.48
Finger Roll Layup Shot	28	0.11	3493	13.59
Finger Roll Shot	26	0.10	3519	13.69
Floating Jump shot	93	0.36	3612	14.06
Follow Up Dunk Shot	10	0.04	3622	14.10
Hook Bank Shot	5	0.02	3627	14.11
Hook Shot	73	0.28	3700	14.40
Jump Bank Shot	289	1.12	3989	15.52
Jump Hook Shot	19	0.07	4008	15.60
Jump Shot	15836	61.63	19844	77.22
Layup Shot	2154	8.38	21998	85.61
Pullup Bank shot	11	0.04	22009	85.65
Pullup Jump shot	402	1.56	22411	87.21
Putback Dunk Shot	3	0.01	22414	87.22
Putback Layup Shot	9	0.04	22423	87.26
Putback Slam Dunk Shot	2	0.01	22425	87.27
Reverse Dunk Shot	61	0.24	22486	87.50
Reverse Layup Shot	333	1.30	22819	88.80
Reverse Slam Dunk Shot	15	0.06	22834	88.86
Running Bank shot	43	0.17	22877	89.03
Running Dunk Shot	18	0.07	22895	89.10
Running Finger Roll Layup Shot	5	0.02	22900	89.12

## The FREQ Procedure

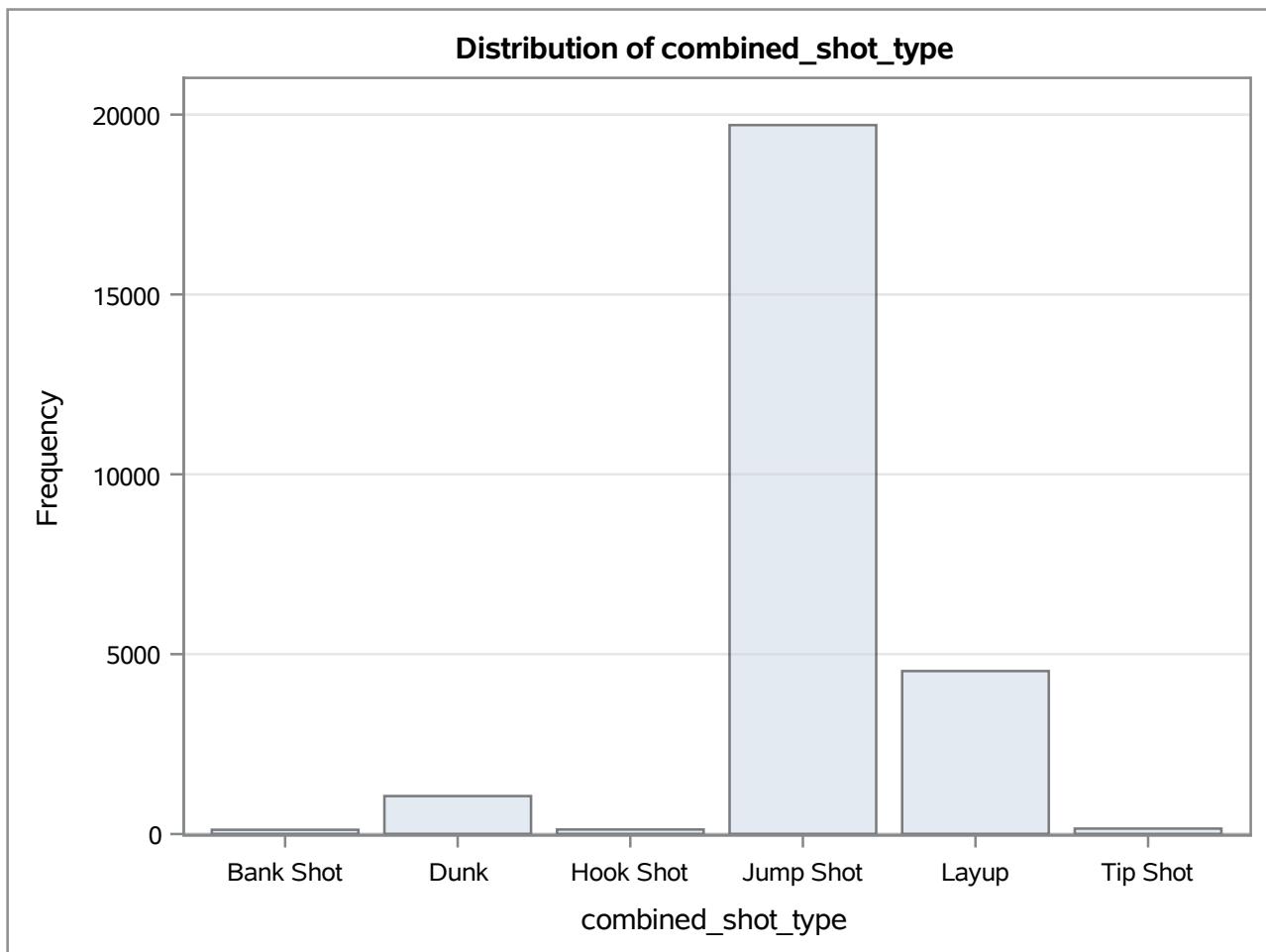
action_type				
action_type	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Running Finger Roll Shot	4	0.02	22904	89.13
Running Hook Shot	33	0.13	22937	89.26
Running Jump Shot	779	3.03	23716	92.29
Running Layup Shot	51	0.20	23767	92.49
Running Pull-Up Jump Shot	3	0.01	23770	92.50
Running Reverse Layup Shot	7	0.03	23777	92.53
Running Slam Dunk Shot	1	0.00	23778	92.53
Running Tip Shot	1	0.00	23779	92.54
Slam Dunk Shot	334	1.30	24113	93.84
Step Back Jump shot	106	0.41	24219	94.25
Tip Layup Shot	2	0.01	24221	94.26
Tip Shot	151	0.59	24372	94.84
Turnaround Bank shot	58	0.23	24430	95.07
Turnaround Fadeaway shot	366	1.42	24796	96.49
Turnaround Finger Roll Shot	2	0.01	24798	96.50
Turnaround Hook Shot	8	0.03	24806	96.53
Turnaround Jump Shot	891	3.47	25697	100.00

Distribution of action\_type



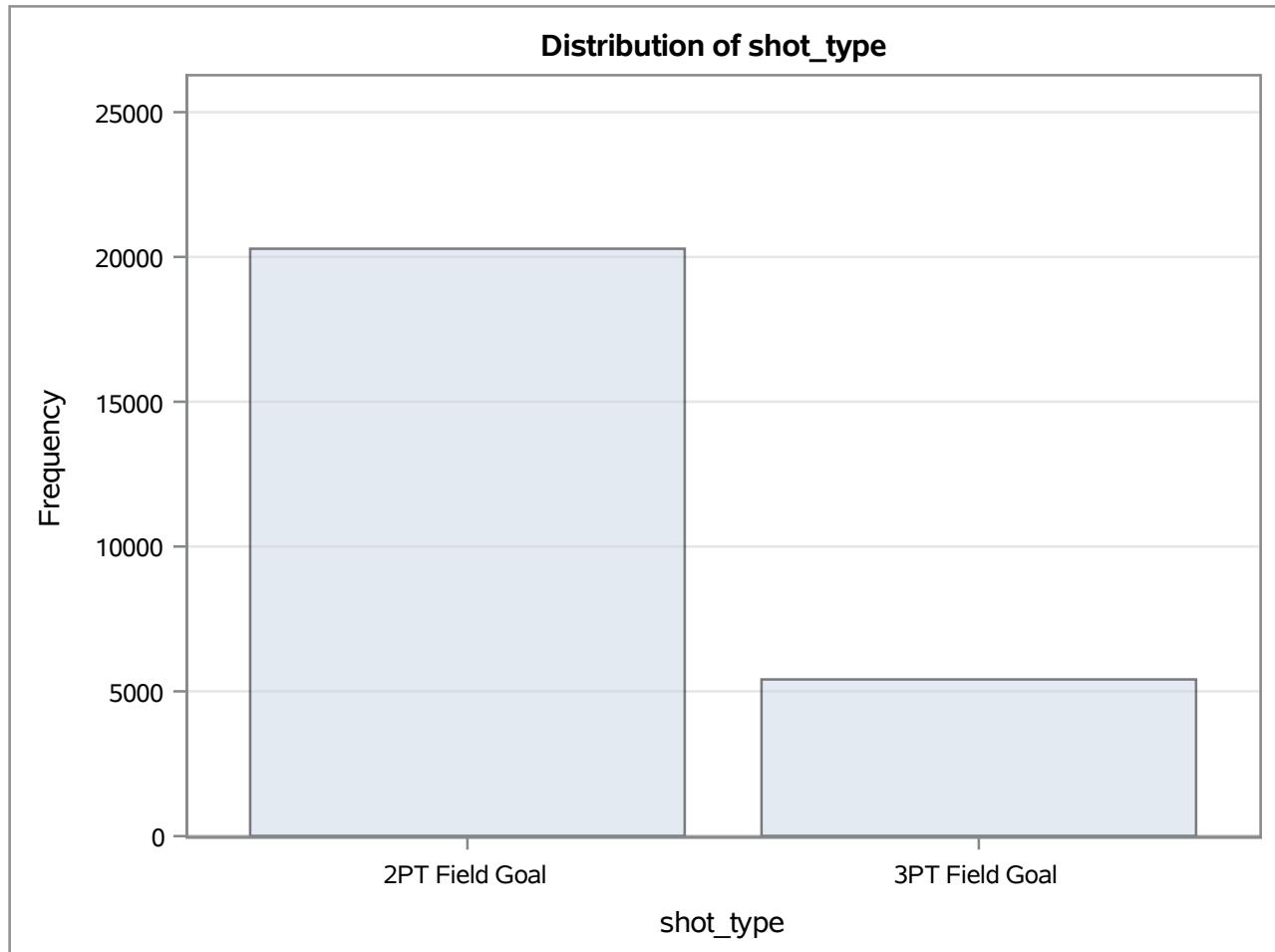
## The FREQ Procedure

combined_shot_type				
combined_shot_type	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Bank Shot	120	0.47	120	0.47
Dunk	1056	4.11	1176	4.58
Hook Shot	127	0.49	1303	5.07
Jump Shot	19710	76.70	21013	81.77
Layup	4532	17.64	25545	99.41
Tip Shot	152	0.59	25697	100.00



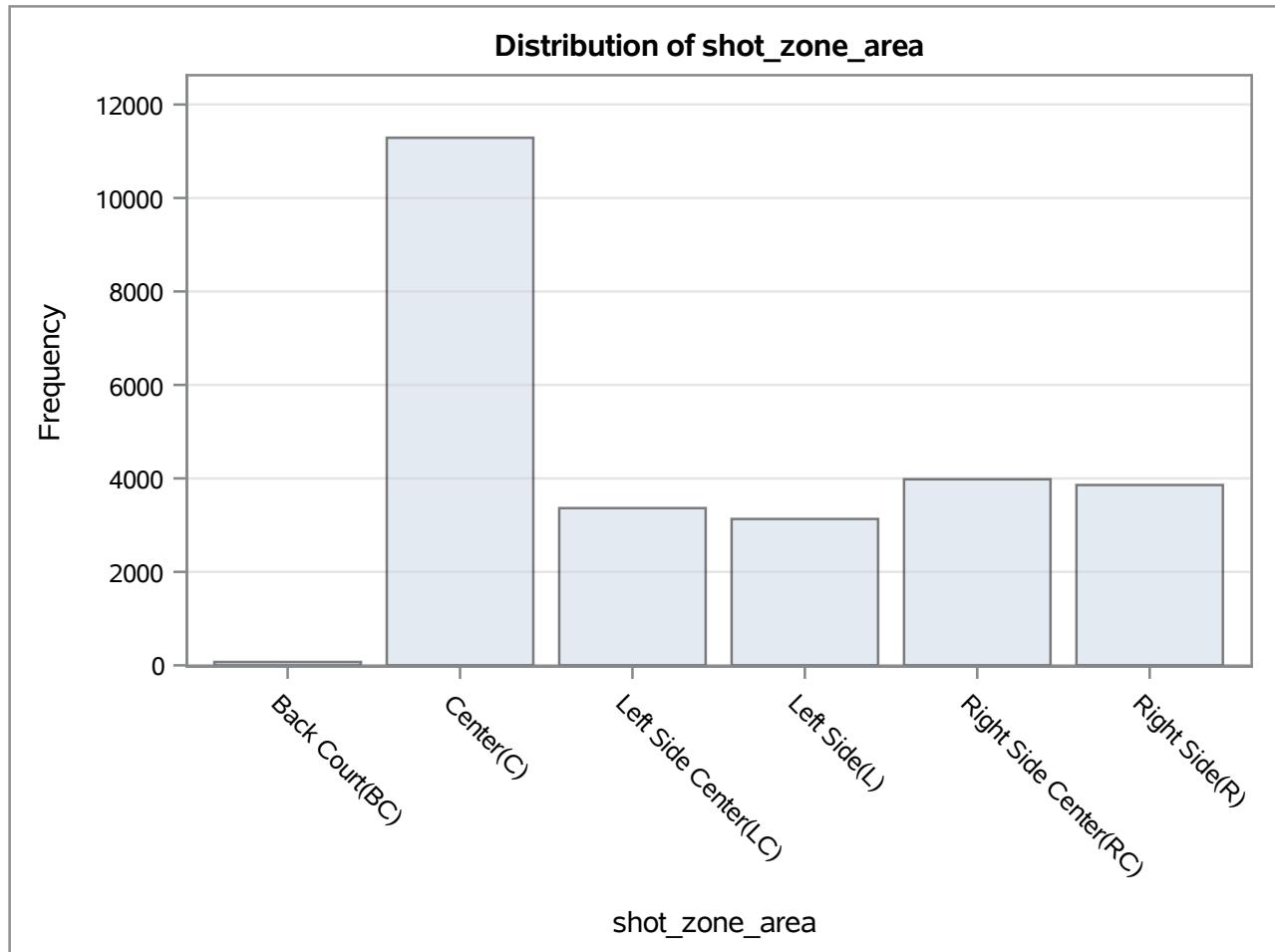
shot_type				
shot_type	Frequency	Percent	Cumulative Frequency	Cumulative Percent
2PT Field Goal	20285	78.94	20285	78.94
3PT Field Goal	5412	21.06	25697	100.00

## The FREQ Procedure



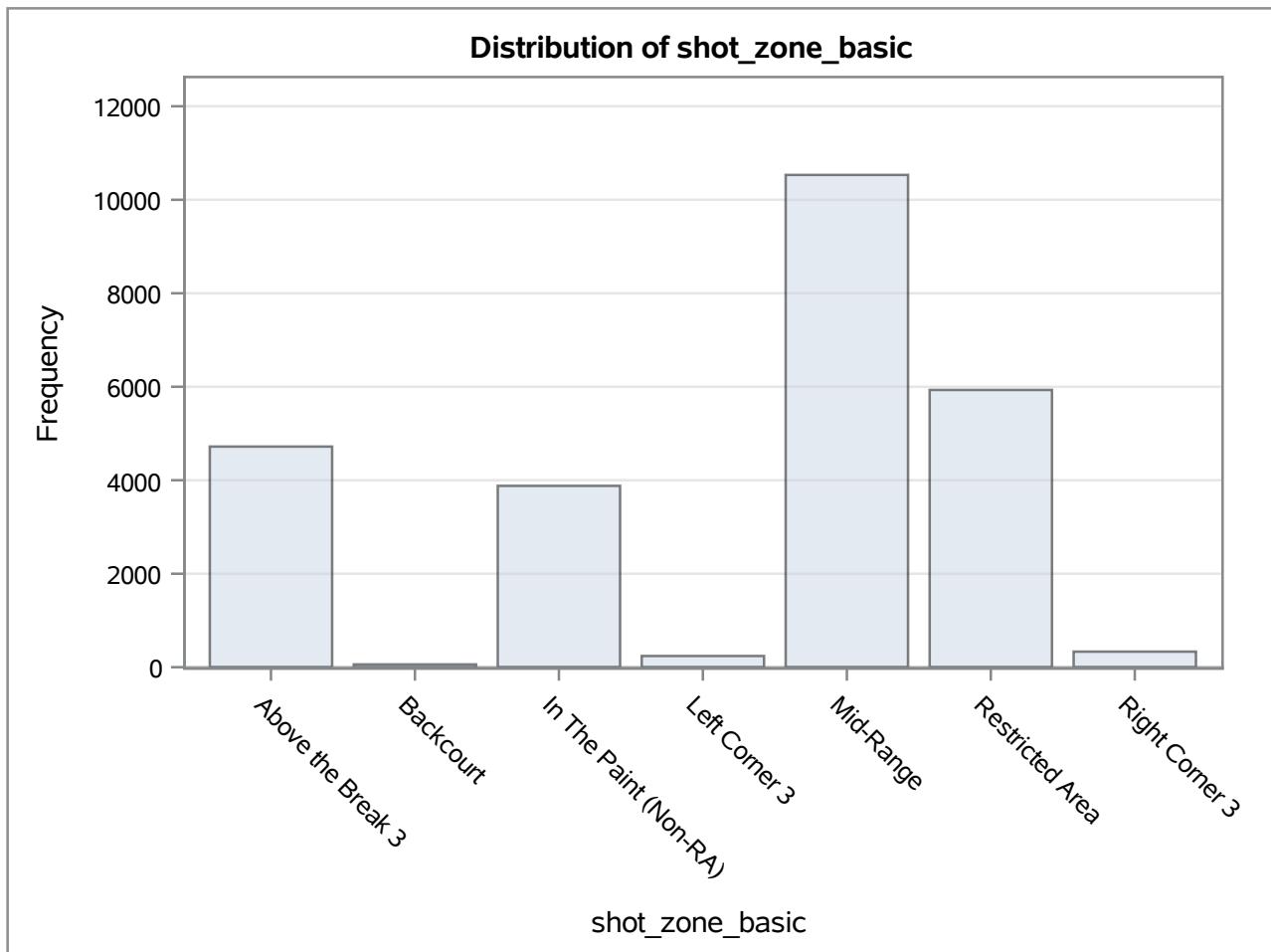
shot_zone_area				
shot_zone_area	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Back Court(BC)	72	0.28	72	0.28
Center(C)	11289	43.93	11361	44.21
Left Side Center(LC)	3364	13.09	14725	57.30
Left Side(L)	3132	12.19	17857	69.49
Right Side Center(RC)	3981	15.49	21838	84.98
Right Side(R)	3859	15.02	25697	100.00

## The FREQ Procedure



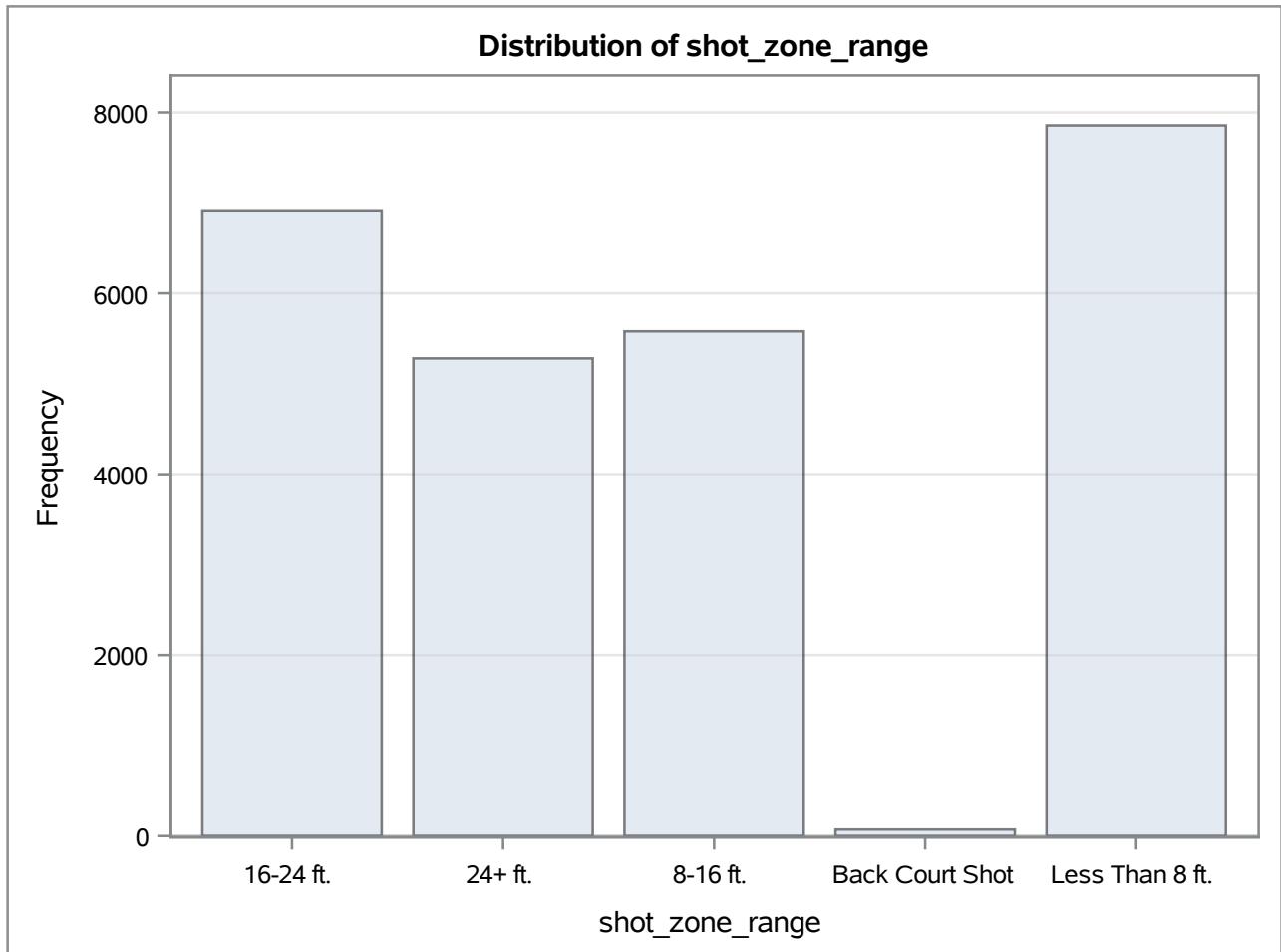
shot_zone_basic				
shot_zone_basic	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Above the Break 3	4720	18.37	4720	18.37
Backcourt	60	0.23	4780	18.60
In The Paint (Non-RA)	3880	15.10	8660	33.70
Left Corner 3	240	0.93	8900	34.63
Mid-Range	10532	40.99	19432	75.62
Restricted Area	5932	23.08	25364	98.70
Right Corner 3	333	1.30	25697	100.00

## The FREQ Procedure



shot_zone_range				
shot_zone_range	Frequency	Percent	Cumulative Frequency	Cumulative Percent
16-24 ft.	6907	26.88	6907	26.88
24+ ft.	5281	20.55	12188	47.43
8-16 ft.	5580	21.71	17768	69.14
Back Court Shot	72	0.28	17840	69.42
Less Than 8 ft.	7857	30.58	25697	100.00

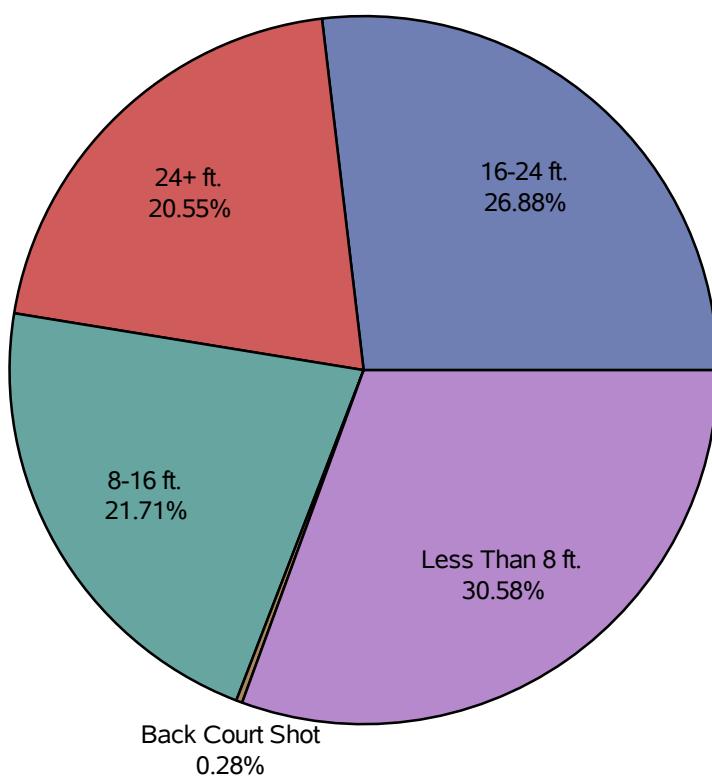
## The FREQ Procedure

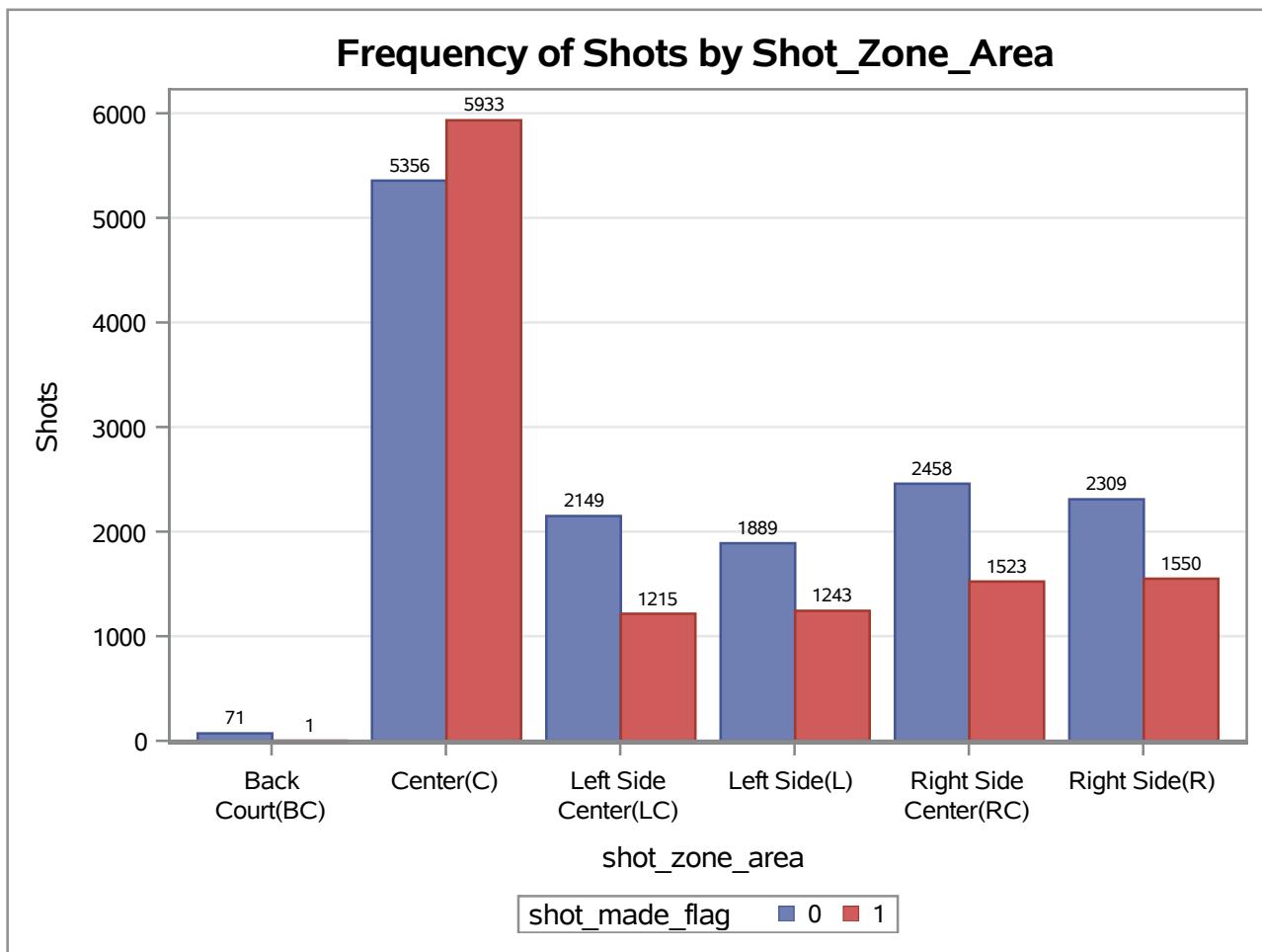


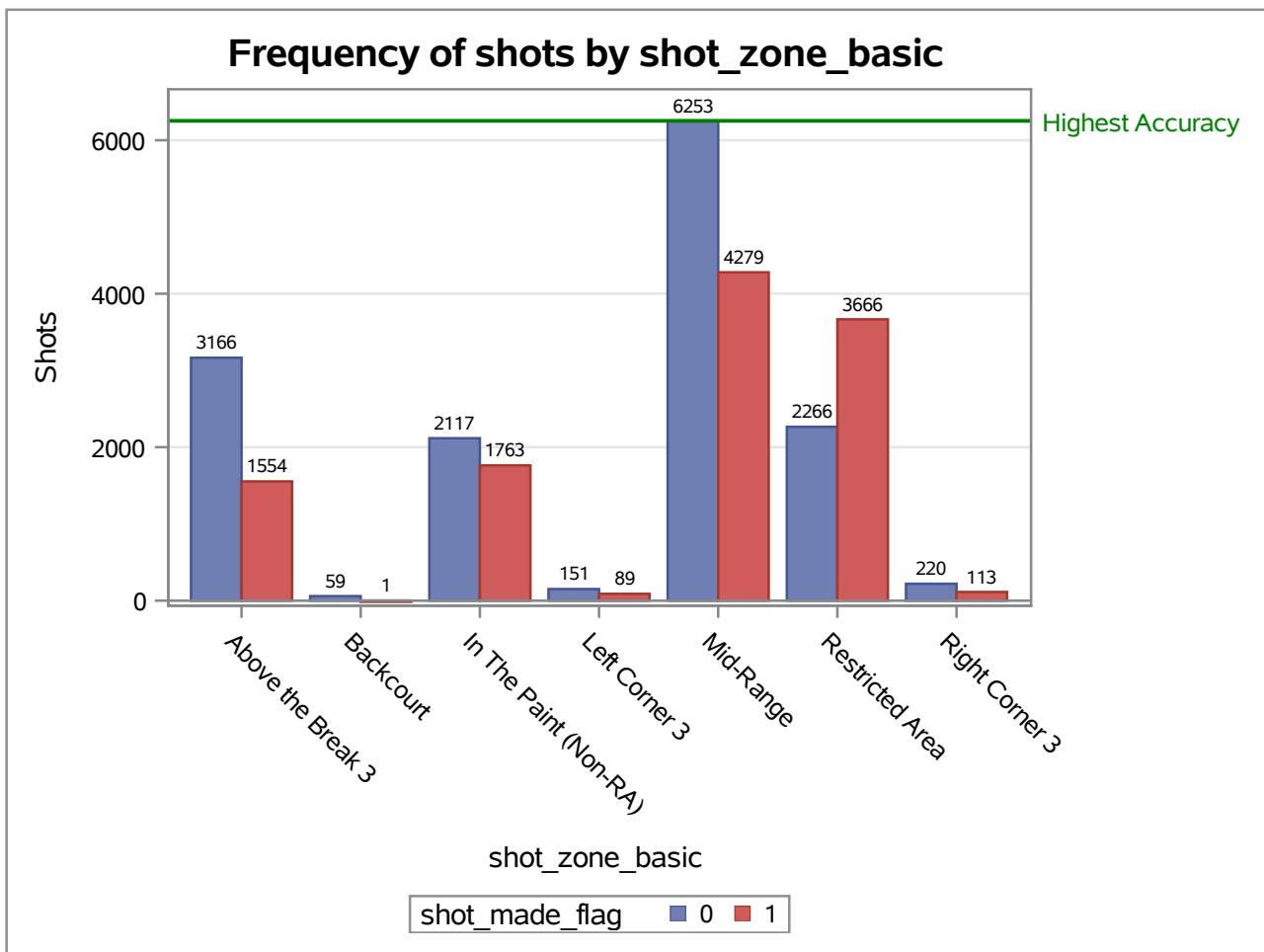
**The MEANS Procedure**

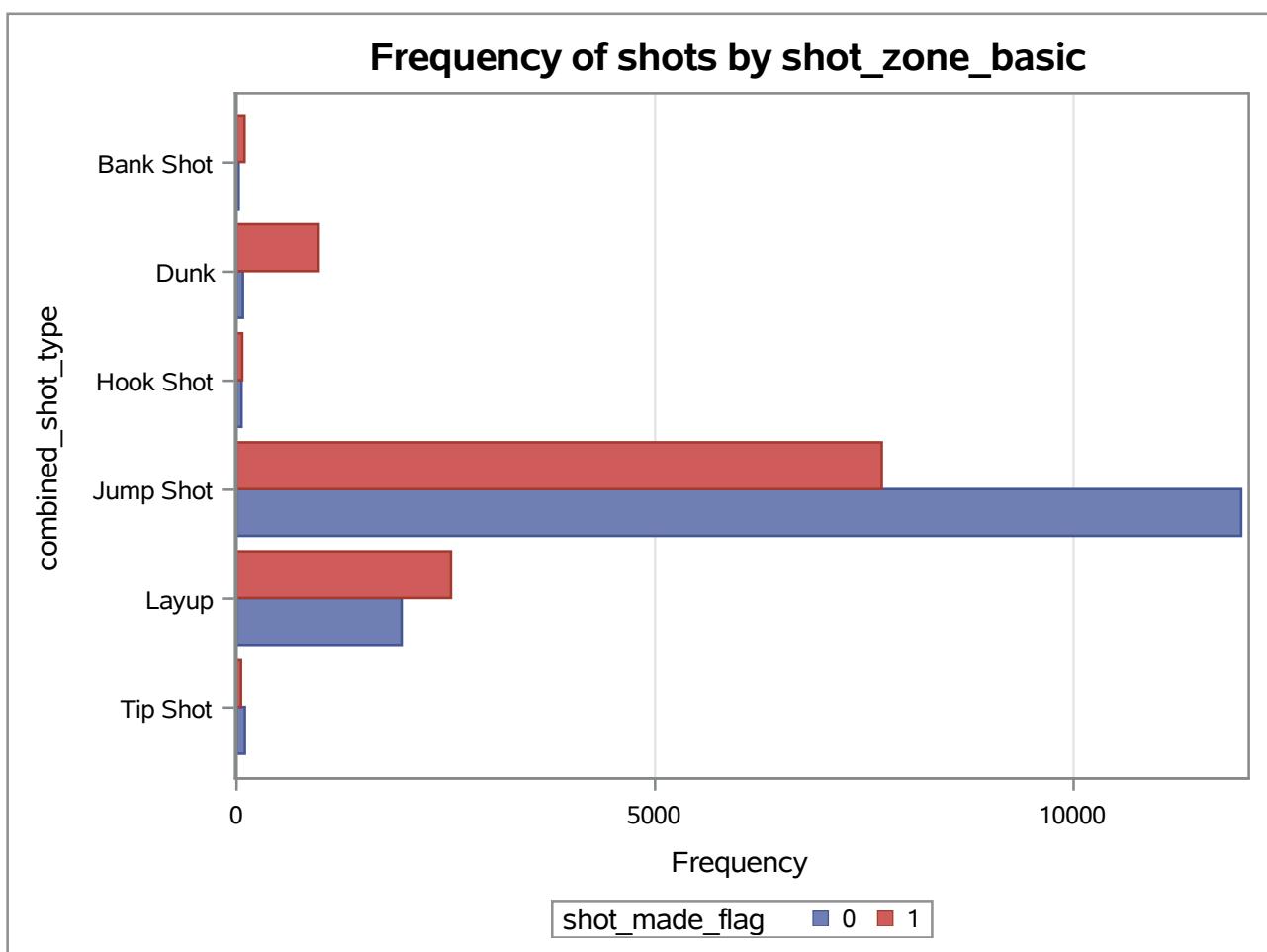
Analysis Variable : shot_made_flag shot_made_flag						
N	N Miss	Minimum	Mean	Median	Maximum	Std Dev
25697	0	0	0.4461610	0	1.0000000	0.4971026

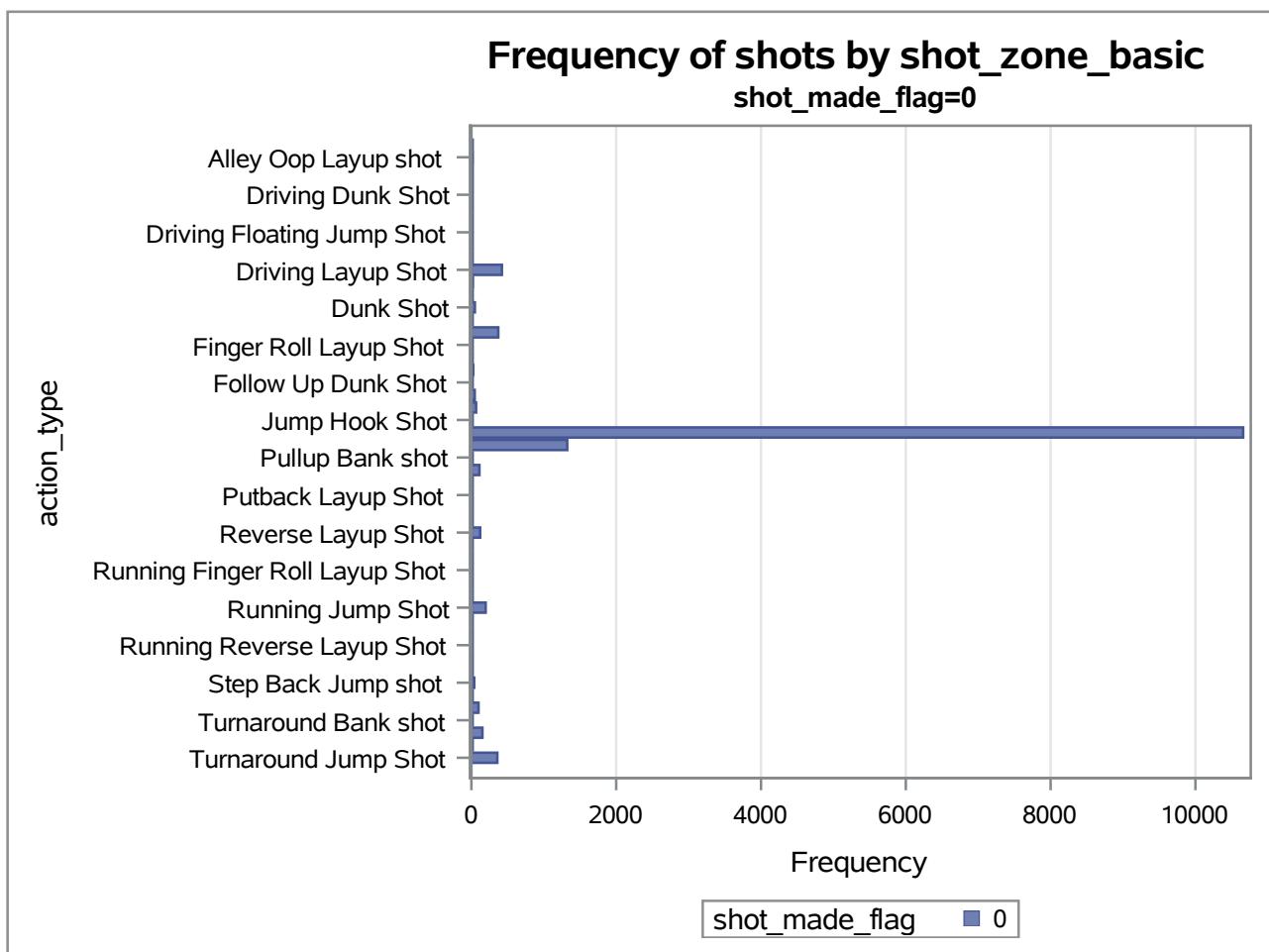
### Shot Zone Range Distribution In %

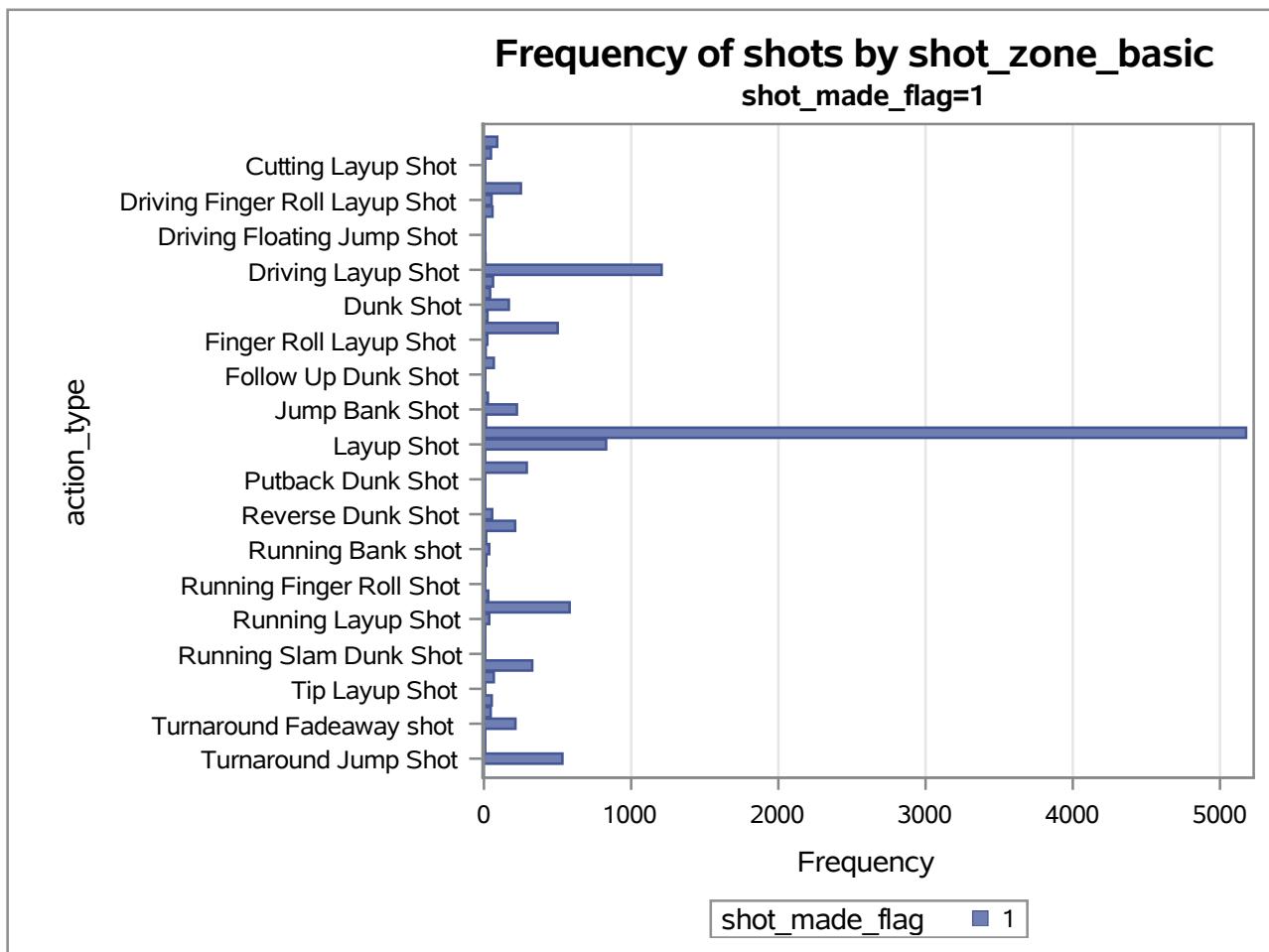












## Frequency of shots by shot\_zone\_basic

### The GLMSELECT Procedure

<b>Data Set</b>	WORK.KOBE1
<b>Dependent Variable</b>	shot_made_flag
<b>Selection Method</b>	LASSO
<b>Stop Criterion</b>	None
<b>Effect Hierarchy Enforced</b>	None

<b>Number of Observations Read</b>	25697
<b>Number of Observations Used</b>	25697

Class Level Information		
Class	Levels	Values
combined_shot_type	6	Bank Shot Dunk Hook Shot Jump Shot Layup Tip Shot
action_type	55	Alley Oop Dunk Shot Alley Oop Layup shot Cutting Layup Shot Driving Bank shot Driving Dunk Shot Driving Finger Roll Layup Shot Driving Finger Roll Shot Driving Floating Bank Jump Shot Driving Floating Jump Shot Driving Hook Shot Driving Jump shot ...
shot_type	2	2PT Field Goal 3PT Field Goal
shot_zone_area	6	Back Court(BC) Center(C) Left Side Center(LC) Left Side(L) Right Side Center(RC) Right Side(R)
shot_zone_basic	7	Above the Break 3 Backcourt In The Paint (Non-RA) Left Corner 3 Mid-Range Restricted Area Right Corner 3
period	7	1 2 3 4 5 6 7
playoffs	2	0 1
shot_zone_range	5	16-24 ft. 24+ ft. 8-16 ft. Back Court Shot Less Than 8 ft.
season	20	1996-97 1997-98 1998-99 1999-00 2000-01 2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16
opponent	33	ATL BKN BOS CHA CHI CLE DAL DEN DET GSW HOU IND LAC MEM MIA MIL MIN NJN NOH NOP NYK OKC ORL PHI PHX POR SAC SAS SEA TOR UTA VAN WAS

Dimensions	
<b>Number of Effects</b>	22
<b>Number of Effects after Splits</b>	123
<b>Number of Parameters</b>	123

## Frequency of shots by shot\_zone\_basic

### The GLMSELECT Procedure

LASSO Selection Summary			
Step	Effect Entered	Effect Removed	Number Effects In
0	Intercept		1
1	action_type_Jump Shot		2
2	combined_shot_type_Dunk		3
3	action_type_Layup Shot		4
4	attendance		5
5	action_type_Driving Layup Shot		6
6	action_type_Running Jump Shot		7
7	combined_shot_type_Tip Shot		8
8	shot_zone_area_Back Court(BC)		9
9	season_2015-16		10
10	action_type_Jump Bank Shot		11
11	arena_temp		12
12	action_type_Hook Shot		13
13	action_type_Slam Dunk Shot		14
14	action_type_Pullup Jump shot		15
15	period_4		16
16	seconds_remaining		17
17	minutes_remaining		18
18	action_type_Driving Finger Roll Layup Shot		19
19	shot_zone_range_16-24 ft.		20
20	action_type_Driving Finger Roll Shot		21
21	combined_shot_type_Bank Shot		22
22	shot_zone_area_Left Side(L)		23
23	action_type_Driving Dunk Shot		24
24	shot_zone_area_Right Side Center(RC)		25
25	action_type_Running Hook Shot		26
26	action_type_Fadeaway Bank shot		27
27	action_type_Fadeaway Jump Shot		28
28	action_type_Dunk Shot		29
29	period_1		30
30	season_2005-06		31
31	season_2014-15		32
32	action_type_Driving Reverse Layup Shot		33
33	shot_zone_area_Right Side(R)		34
34	game_date		35
35	action_type_Finger Roll Layup Shot		36
36	season_1997-98		37

# Frequency of shots by shot\_zone\_basic

## The GLMSELECT Procedure

LASSO Selection Summary			
Step	Effect Entered	Effect Removed	Number Effects In
37	shot_zone_basic_Left Corner 3		38
38	action_type_Driving Jump shot		39
39	action_type_Floating Jump shot		40
40	action_type_Finger Roll Shot		41
41	season_2003-04		42
42	season_2008-09		43
43	action_type_Running Bank shot		44
44	season_2006-07		45
45	action_type_Running Finger Roll Shot		46
46	season_2011-12		47
47	season_2000-01		48
48	action_type_Turnaround Jump Shot		49
49	action_type_Alley Oop Layup shot		50
50	action_type_Pullup Bank shot		51
51	shot_zone_range_Less Than 8 ft.		52
52	action_type_Running Layup Shot		53
53	action_type_Putback Slam Dunk Shot		54
54	season_2012-13		55
55	action_type_Hook Bank Shot		56
56	combined_shot_type_Jump Shot		57
57	shot_zone_basic_Right Corner 3		58
58	action_type_Jump Hook Shot		59
59	action_type_Driving Slam Dunk Shot		60
60	action_type_Putback Dunk Shot		61
61	action_type_Turnaround Finger Roll Shot		62
62	shot_zone_area_Center(C)		63
63	shot_zone_basic_Restricted Area		64
64	action_type_Running Tip Shot		65
65	action_type_Driving Floating Bank Jump Shot		66
66	action_type_Cutting Layup Shot		67
67	season_1999-00		68
68	avgnoisedb		69
69	action_type_Reverse Slam Dunk Shot		70
70	shot_zone_basic_Above the Break 3		71
71	shot_id		72
72	action_type_Turnaround Hook Shot		73
73	season_2007-08		74

# Frequency of shots by shot\_zone\_basic

## The GLMSELECT Procedure

LASSO Selection Summary			
Step	Effect Entered	Effect Removed	Number Effects In
74	period_2		75
75	action_type_Alley Oop Dunk Shot		76
76	action_type_Turnaround Fadeaway shot		77
77	action_type_Driving Floating Jump Shot		78
78	action_type_Putback Layup Shot		79
79	period_6		80
80	action_type_Running Pull-Up Jump Shot		81
81	season_2001-02		82
82	action_type_Driving Bank shot		83
83	season_2013-14		84
84	season_2009-10		85
85	season_2010-11		86
86	shot_zone_basic_Mid-Range		87
87	season_2002-03		88
88	action_type_Running Reverse Layup Shot		89
89	season_1998-99		90
90	period_5		91
91	action_type_Driving Hook Shot		92
92	loc_y		93
93	season_2004-05		94
94		season_2009-10	93
95	action_type_Tip Layup Shot		94
96		combined_shot_type_Jump Shot	93
97	loc_x		94
98	action_type_Running Slam Dunk Shot		95
99	season_1996-97		96
100	action_type_Step Back Jump shot		97
101		season_1998-99	96
102	playoffs_0		97
103	shot_distance		98
104	action_type_Running Dunk Shot		99
105	shot_type_2PT Field Goal		100
106		season_2004-05	99
107	period_7		100
108		shot_zone_basic_Right Corner 3	99
109	season_1998-99		100
110	action_type_Running Finger Roll Layup Shot		101

# Frequency of shots by shot\_zone\_basic

## The GLMSELECT Procedure

LASSO Selection Summary			
Step	Effect Entered	Effect Removed	Number Effects In
111	action_type_Follow Up Dunk Shot		102
112	shot_zone_basic_In The Paint (Non-RA)		103
113	season_2004-05		104
114		season_1998-99	103
115	season_2009-10		104
116		season_2004-05	103
117		season_2012-13	102
118	season_2004-05		103
119		shot_zone_basic_Mid-Range	102
120	shot_zone_basic_Right Corner 3		103
121	shot_zone_range_8-16 ft.		104
122		season_2000-01	103
123	season_1998-99		104
124	season_2012-13		105
125		season_2011-12	104
126	season_2000-01		105
127		season_1999-00	104
128	season_2011-12		105
129		season_2013-14	104
130	season_2013-14		105
131		season_2004-05	104
132	season_1999-00		105
133		season_2014-15	104
134	season_2004-05		105
135		season_2007-08	104
136	season_2014-15		105
137		season_2015-16	104
138	season_2015-16		105
139		season_2005-06	104
140	season_2007-08		105
141	lat		106
142	action_type_Tip Shot		107
143	combined_shot_type_Jump Shot		108
144	combined_shot_type_Layup		109
145	shot_zone_basic_Mid-Range		110
146		action_type_Tip Shot	109
147		shot_zone_basic_Mid-Range	108

## Frequency of shots by shot\_zone\_basic

### The GLMSELECT Procedure

LASSO Selection Summary			
Step	Effect Entered	Effect Removed	Number Effects In
148	action_type_Tip Shot		109
149		combined_shot_type_Jump Shot	108

Selection stopped because the maximum absolute correction starts increasing.

## Frequency of shots by shot\_zone\_basic

### The GLMSELECT Procedure Selected Model

**The selected model is the model at the last step (Step 149).**

<b>Effects:</b>	Intercept combined_shot_type_Bank Shot combined_shot_type_Dunk combined_shot_type_Layup combined_shot_type_Tip Shot action_type_Alley Oop Dunk Shot action_type_Alley Oop Layup shot action_type_Cutting Layup Shot action_type_Driving Bank shot action_type_Driving Dunk Shot action_type_Driving Finger Roll Layup Shot action_type_Driving Finger Roll Shot action_type_Driving Floating Bank Jump Shot action_type_Driving Floating Jump Shot action_type_Driving Hook Shot action_type_Driving Jump shot action_type_Driving Layup Shot action_type_Driving Reverse Layup Shot action_type_Driving Slam Dunk Shot action_type_Dunk Shot action_type_Fadeaway Bank shot action_type_Fadeaway Jump Shot action_type_Finger Roll Layup Shot action_type_Finger Roll Shot action_type_Floating Jump shot action_type_Follow Up Dunk Shot action_type_Hook Bank Shot action_type_Hook Shot action_type_Jump Bank Shot action_type_Jump Hook Shot action_type_Jump Shot action_type_Layup Shot action_type_Pullup Bank shot action_type_Pullup Jump shot action_type_Putback Dunk Shot action_type_Putback Layup Shot action_type_Putback Slam Dunk Shot action_type_Reverse Slam Dunk Shot action_type_Running Bank shot action_type_Running Dunk Shot action_type_Running Finger Roll Layup Shot action_type_Running Finger Roll Shot action_type_Running Hook Shot action_type_Running Jump Shot action_type_Running Layup Shot action_type_Running Pull-Up Jump Shot action_type_Running Reverse Layup Shot action_type_Running Slam Dunk Shot action_type_Running Tip Shot action_type_Slam Dunk Shot action_type_Step Back Jump shot action_type_Tip Layup Shot action_type_Tip Shot action_type_Turnaround Fadeaway shot action_type_Turnaround Finger Roll Shot action_type_Turnaround Hook Shot action_type_Turnaround Jump Shot shot_type_2PT Field Goal arena_temp attendance shot_zone_area_Back Court(BC) shot_zone_area_Center(C) shot_zone_area_Left Side(L) shot_zone_area_Right Side Center(RC) shot_zone_area_Right Side(R) shot_zone_basic_Above the Break 3 shot_zone_basic_In The Paint (Non-RA) shot_zone_basic_Left Corner 3 shot_zone_basic_Restricted Area shot_zone_basic_Right Corner 3 period_1 period_2 period_4 period_5 period_6 period_7 shot_zone_range_16-24 ft. shot_zone_range_8-16 ft. shot_zone_range_Less Than 8 ft. season_1996-97 season_1997-98 season_1998-99 season_1999-00 season_2000-01 season_2001-02 season_2002-03 season_2003-04 season_2004-05 season_2006-07 season_2007-08 season_2008-09 season_2009-10 season_2010-11 season_2011-12 season_2012-13 season_2013-14 season_2014-15 season_2015-16 avgnoisedb game_date lat playoffs_0 loc_y loc_x minutes_remaining seconds_remaining shot_distance shot_id
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## Frequency of shots by shot\_zone\_basic

### The GLMSELECT Procedure Selected Model

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
<b>Model</b>	104	1009.46803	9.70642	46.52
<b>Error</b>	25592	5340.29576	0.20867	
<b>Corrected Total</b>	25696	6349.76379		

<b>Root MSE</b>	0.45680
<b>Dependent Mean</b>	0.44616
<b>R-Square</b>	0.1590
<b>Adj R-Sq</b>	0.1556
<b>AIC</b>	-14463
<b>AICC</b>	-14462
<b>SBC</b>	-39306

## Frequency of shots by shot\_zone\_basic

### The GLMSELECT Procedure Selected Model

Parameter Estimates		
Parameter	DF	Estimate
Intercept	1	2.254459
combined_shot_type_Bank Shot	1	0.193828
combined_shot_type_Dunk	1	0.274200
combined_shot_type_Layup	0	0
combined_shot_type_Tip Shot	1	-0.282337
action_type_Alley Oop Dunk Shot	1	0.033925
action_type_Alley Oop Layup shot	1	0.066622
action_type_Cutting Layup Shot	1	0.162326
action_type_Driving Bank shot	1	-0.137718
action_type_Driving Dunk Shot	1	0.064871
action_type_Driving Finger Roll Layup Shot	1	0.244997
action_type_Driving Finger Roll Shot	1	0.222401
action_type_Driving Floating Bank Jump Shot	1	0.420056
action_type_Driving Floating Jump Shot	1	-0.118472
action_type_Driving Hook Shot	1	0.038911
action_type_Driving Jump shot	1	-0.178406
action_type_Driving Layup Shot	1	0.110580
action_type_Driving Reverse Layup Shot	1	0.140110
action_type_Driving Slam Dunk Shot	1	0.080576
action_type_Dunk Shot	1	-0.133693
action_type_Fadeaway Bank shot	1	0.286764
action_type_Fadeaway Jump Shot	1	-0.054256
action_type_Finger Roll Layup Shot	1	0.193382
action_type_Finger Roll Shot	1	-0.160527
action_type_Floating Jump shot	1	0.111573
action_type_Follow Up Dunk Shot	1	0.007277
action_type_Hook Bank Shot	1	0.180534
action_type_Hook Shot	1	-0.239778
action_type_Jump Bank Shot	1	0.163341
action_type_Jump Hook Shot	1	0.135455
action_type_Jump Shot	1	-0.321129
action_type_Layup Shot	1	-0.242219
action_type_Pullup Bank shot	1	-0.239834
action_type_Pullup Jump shot	1	0.105216
action_type_Putback Dunk Shot	1	-0.268816
action_type_Putback Layup Shot	1	0.073216
action_type_Putback Slam Dunk Shot	1	-0.421429

## Frequency of shots by shot\_zone\_basic

**The GLMSELECT Procedure  
Selected Model**

Parameter Estimates		
Parameter	DF	Estimate
action_type_Reverse Slam Dunk Shot	1	0.100190
action_type_Running Bank shot	1	0.041302
action_type_Running Dunk Shot	1	-0.006756
action_type_Running Finger Roll Layup Shot	1	-0.009325
action_type_Running Finger Roll Shot	1	-0.368013
action_type_Running Hook Shot	1	0.261981
action_type_Running Jump Shot	1	0.117858
action_type_Running Layup Shot	1	0.080174
action_type_Running Pull-Up Jump Shot	1	0.118294
action_type_Running Reverse Layup Shot	1	-0.053598
action_type_Running Slam Dunk Shot	1	0.085762
action_type_Running Tip Shot	1	-0.402423
action_type_Slam Dunk Shot	1	0.068835
action_type_Step Back Jump shot	1	0.003666
action_type_Tip Layup Shot	1	-0.061371
action_type_Tip Shot	0	0
action_type_Turnaround Fadeaway shot	1	-0.023304
action_type_Turnaround Finger Roll Shot	1	0.301167
action_type_Turnaround Hook Shot	1	-0.091241
action_type_Turnaround Jump Shot	1	-0.038238
shot_type_2PT Field Goal	1	-0.058647
arena_temp	1	0.006924
attendance	1	0.000035174
shot_zone_area_Back Court(BC)	1	-0.335476
shot_zone_area_Center(C)	1	0.027008
shot_zone_area_Left Side(L)	1	-0.061545
shot_zone_area_Right Side Center(RC)	1	0.040507
shot_zone_area_Right Side(R)	1	-0.022622
shot_zone_basic_Above the Break 3	1	-0.058117
shot_zone_basic_In The Paint (Non-RA)	1	0.021198
shot_zone_basic_Left Corner 3	1	0.041882
shot_zone_basic_Restricted Area	1	0.061467
shot_zone_basic_Right Corner 3	1	-0.007194
period_1	1	0.015282
period_2	1	0.005891
period_4	1	-0.023399
period_5	1	-0.005641

## Frequency of shots by shot\_zone\_basic

### The GLMSELECT Procedure Selected Model

Parameter Estimates		
Parameter	DF	Estimate
period_6	1	-0.035993
period_7	1	-0.010946
shot_zone_range_16-24 ft.	1	0.037338
shot_zone_range_8-16 ft.	1	0.016245
shot_zone_range_Less Than 8 ft.	1	-0.077175
season_1996-97	1	-0.248034
season_1997-98	1	-0.252729
season_1998-99	1	-0.181055
season_1999-00	1	-0.153062
season_2000-01	1	-0.136551
season_2001-02	1	-0.130497
season_2002-03	1	-0.105323
season_2003-04	1	-0.096995
season_2004-05	1	-0.050613
season_2006-07	1	0.014070
season_2007-08	1	0.023286
season_2008-09	1	0.058354
season_2009-10	1	0.062207
season_2010-11	1	0.095802
season_2011-12	1	0.103057
season_2012-13	1	0.123513
season_2013-14	1	0.138746
season_2014-15	1	0.142353
season_2015-16	1	0.127922
avgnoisedb	1	0.000653
game_date	1	-0.000068204
lat	0	0
playoffs_0	1	-0.013463
loc_y	1	-0.000138
loc_x	1	-0.000069801
minutes_remaining	1	0.003308
seconds_remaining	1	0.000707
shot_distance	1	0.001708
shot_id	1	-0.000000504

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: arena\_temp (arena\_temp)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	70.1077169	<b>Sum Observations</b>	1801558
<b>Std Deviation</b>	2.0301648	<b>Variance</b>	4.12156911
<b>Skewness</b>	0.06812158	<b>Kurtosis</b>	-0.033463
<b>Uncorrected SS</b>	126409026	<b>Corrected SS</b>	105907.84
<b>Coeff Variation</b>	2.89577936	<b>Std Error Mean</b>	0.01266456

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	70.10772	<b>Std Deviation</b>	2.03016
<b>Median</b>	70.00000	<b>Variance</b>	4.12157
<b>Mode</b>	71.00000	<b>Range</b>	15.00000
		<b>Interquartile Range</b>	2.00000

<b>Tests for Location: Mu0=0</b>				
Test	<b>Statistic</b>		<b>p Value</b>	
<b>Student's t</b>	<b>t</b>	5535.741	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	12848.5	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.6509E8	<b>Pr &gt;=  S </b>	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	2.000000	1.482602
<b>Gini's Mean Difference</b>	2.270496	2.012174
<b>MAD</b>	1.000000	1.482600
<b>Sn</b>	2.385200	2.385284
<b>Qn</b>	2.221900	2.221779

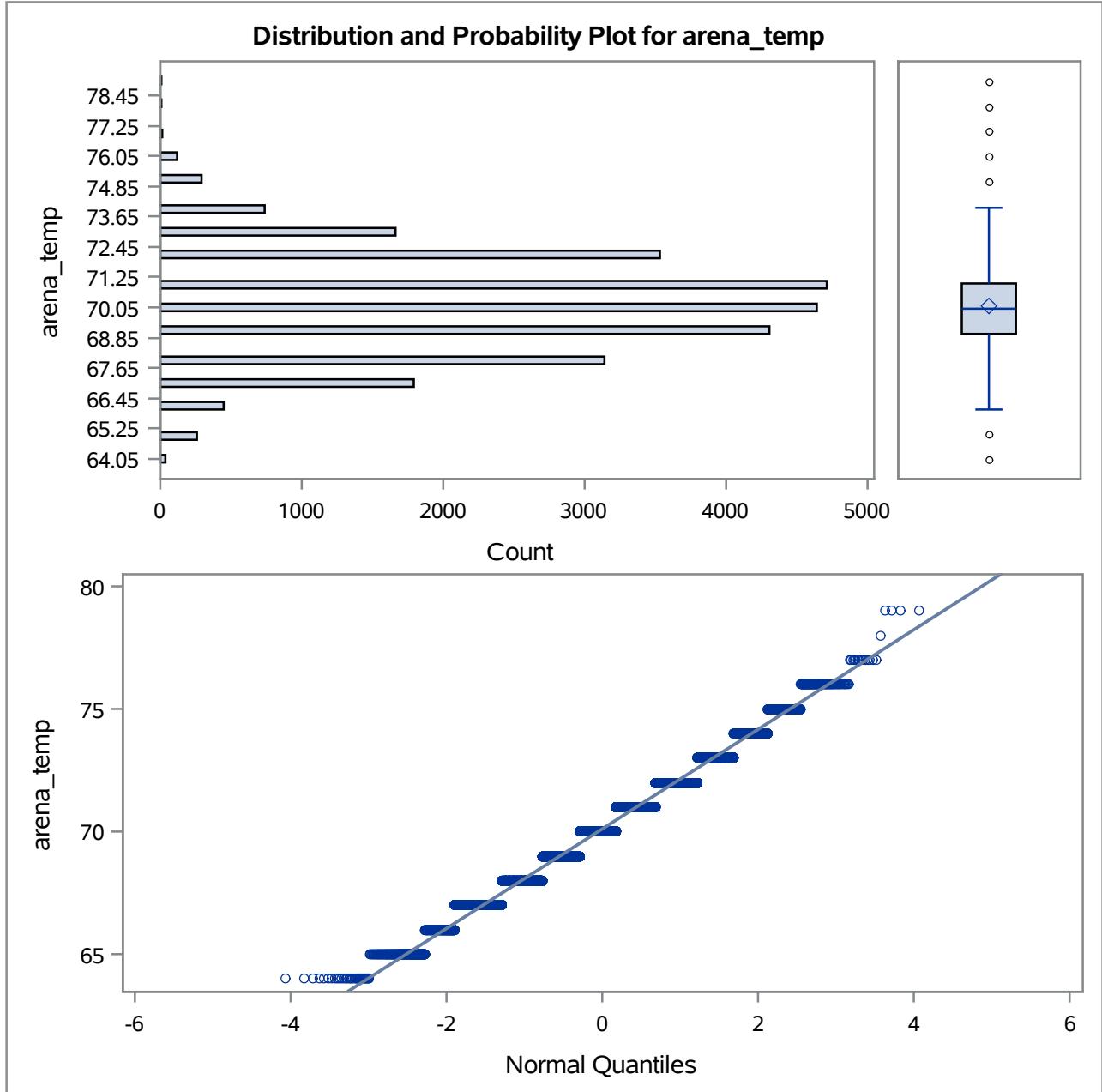
<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	79
<b>99%</b>	75
<b>95%</b>	73
<b>90%</b>	73
<b>75% Q3</b>	71
<b>50% Median</b>	70
<b>25% Q1</b>	69

**Outlier Identification for continuous-valued variable**

The UNIVARIATE Procedure  
Variable: arena\_temp (arena\_temp)

Quantiles (Definition 5)	
Level	Quantile
10%	68
5%	67
1%	65
0% Min	64

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
64	18452	78	17647
64	18451	79	5394
64	18450	79	5395
64	18449	79	11078
64	18448	79	23626

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: attendance (attendance)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	15040.6836	<b>Sum Observations</b>	386500447
<b>Std Deviation</b>	1076.22666	<b>Variance</b>	1158263.83
<b>Skewness</b>	0.0901571	<b>Kurtosis</b>	0.1341294
<b>Uncorrected SS</b>	5.84299E12	<b>Corrected SS</b>	2.97627E10
<b>Coeff Variation</b>	7.15543714	<b>Std Error Mean</b>	6.71370933

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	15040.68	<b>Std Deviation</b>	1076
<b>Median</b>	15048.00	<b>Variance</b>	1158264
<b>Mode</b>	15286.00	<b>Range</b>	9780
		<b>Interquartile Range</b>	1424

<b>Tests for Location: Mu0=0</b>				
Test	Statistic		p Value	
<b>Student's t</b>	<b>t</b>	2240.294	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	12848.5	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.6509E8	<b>Pr &gt;=  S </b>	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	1424.000	1055.612
<b>Gini's Mean Difference</b>	1211.188	1073.387
<b>MAD</b>	703.000	1042.268
<b>Sn</b>	1075.725	1075.763
<b>Qn</b>	1068.734	1068.676

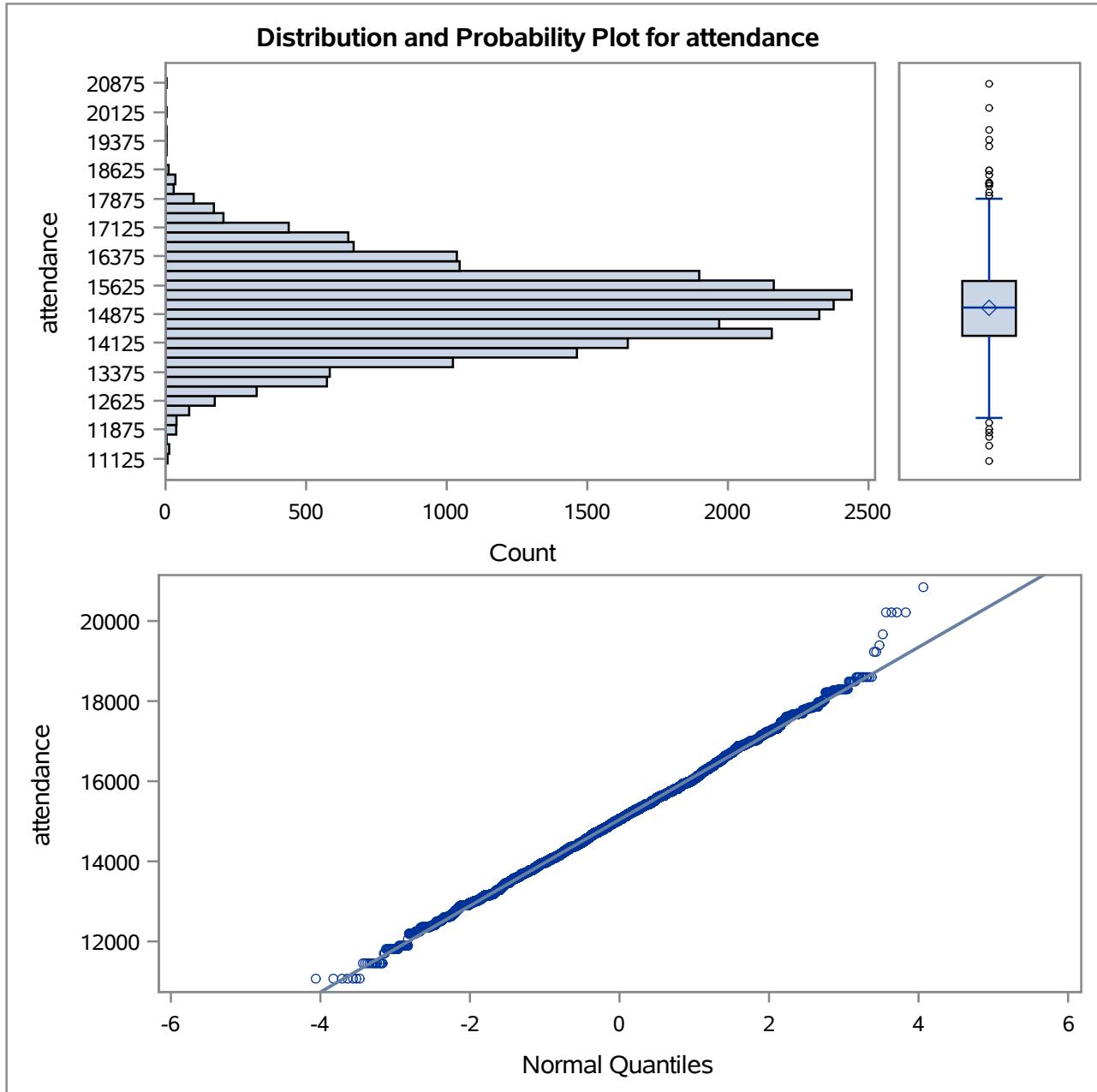
<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	20845
<b>99%</b>	17655
<b>95%</b>	16887
<b>90%</b>	16448
<b>75% Q3</b>	15738
<b>50% Median</b>	15048
<b>25% Q1</b>	14314

## Outlier Identification for continuous-valued variable

The UNIVARIATE Procedure  
 Variable: attendance (attendance)

Quantiles (Definition 5)	
Level	Quantile
10%	13691
5%	13259
1%	12603
0% Min	11065

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
11065	23641	20221	5394
11065	23640	20221	5395
11065	16298	20221	11078
11065	5406	20221	23626
11065	5405	20845	5378

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: period (period)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	2.52080009	<b>Sum Observations</b>	64777
<b>Std Deviation</b>	1.15162611	<b>Variance</b>	1.3262427
<b>Skewness</b>	0.05417085	<b>Kurtosis</b>	-1.1558735
<b>Uncorrected SS</b>	197369	<b>Corrected SS</b>	34079.1324
<b>Coeff Variation</b>	45.684944	<b>Std Error Mean</b>	0.00718407

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	2.520800	<b>Std Deviation</b>	1.15163
<b>Median</b>	3.000000	<b>Variance</b>	1.32624
<b>Mode</b>	3.000000	<b>Range</b>	6.00000
		<b>Interquartile Range</b>	2.00000

<b>Tests for Location: Mu0=0</b>				
Test	Statistic		p Value	
<b>Student's t</b>	<b>t</b>	350.8877	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	12848.5	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.6509E8	<b>Pr &gt;=  S </b>	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	2.000000	1.482602
<b>Gini's Mean Difference</b>	1.285027	1.138826
<b>MAD</b>	1.000000	1.482600
<b>Sn</b>	1.192600	1.192642
<b>Qn</b>	2.221900	2.221779

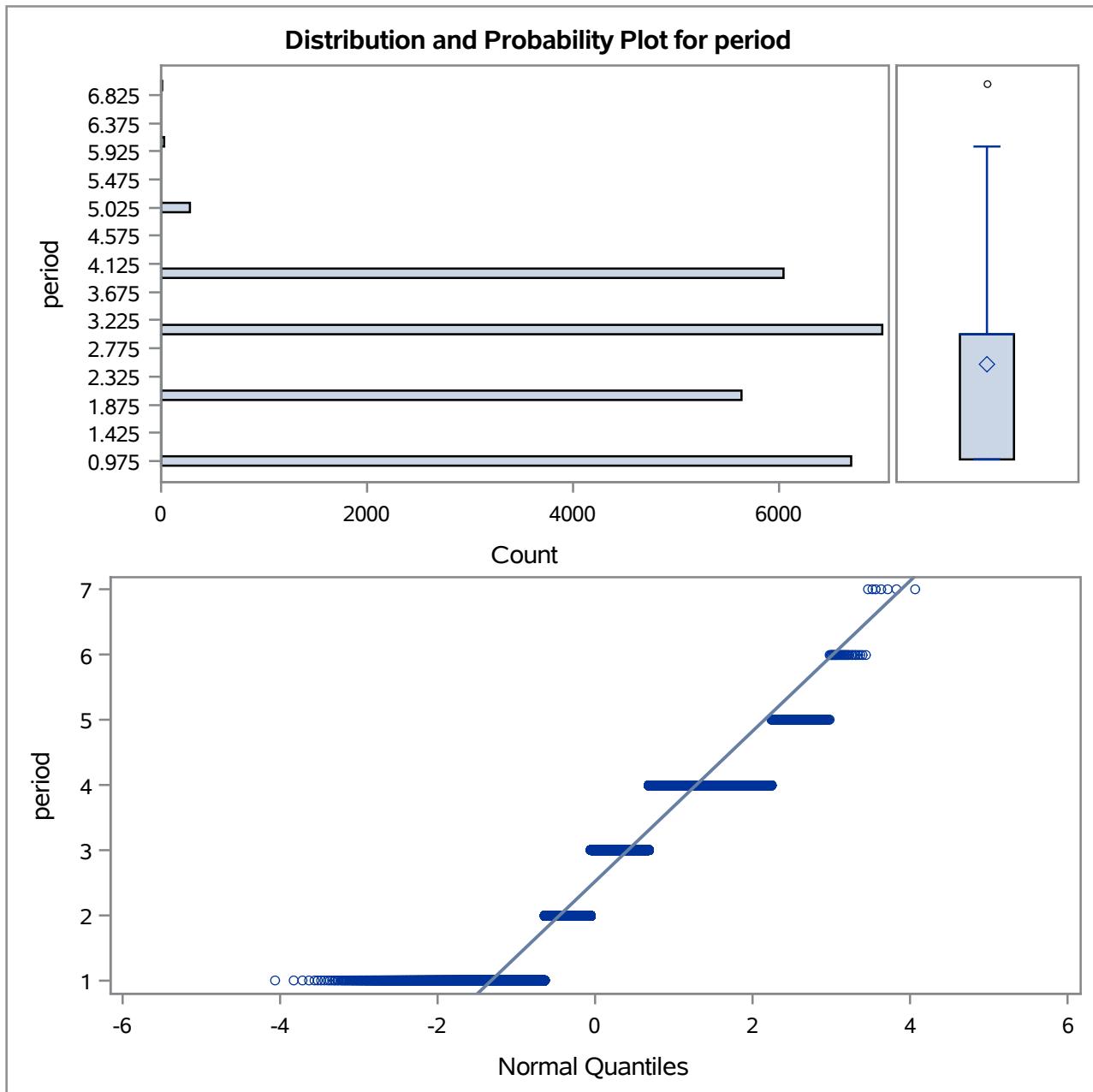
<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	7
<b>99%</b>	5
<b>95%</b>	4
<b>90%</b>	4
<b>75% Q3</b>	3
<b>50% Median</b>	3
<b>25% Q1</b>	1

## Outlier Identification for continuous-valued variable

### The UNIVARIATE Procedure Variable: period (period)

Quantiles (Definition 5)	
Level	Quantile
10%	1
5%	1
1%	1
0% Min	1

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
1	25692	7	8487
1	25691	7	9830
1	25685	7	15342
1	25676	7	20610
1	25675	7	22429

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: avgnoisedb (avgnoisedb)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	94.9513686	<b>Sum Observations</b>	2439965.32
<b>Std Deviation</b>	2.28170727	<b>Variance</b>	5.20618806
<b>Skewness</b>	0.10195046	<b>Kurtosis</b>	0.07992449
<b>Uncorrected SS</b>	231811825	<b>Corrected SS</b>	133778.208
<b>Coeff Variation</b>	2.40302726	<b>Std Error Mean</b>	0.01423373

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	94.95137	<b>Std Deviation</b>	2.28171
<b>Median</b>	94.92000	<b>Variance</b>	5.20619
<b>Mode</b>	94.50000	<b>Range</b>	13.87000
		<b>Interquartile Range</b>	3.09000

<b>Tests for Location: Mu0=0</b>				
Test	Statistic		p Value	
<b>Student's t</b>	<b>t</b>	6670.871	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	12848.5	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.6509E8	<b>Pr &gt;=  S </b>	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	3.090000	2.290620
<b>Gini's Mean Difference</b>	2.567265	2.275180
<b>MAD</b>	1.550000	2.298030
<b>Sn</b>	2.313644	2.313725
<b>Qn</b>	2.266338	2.266215

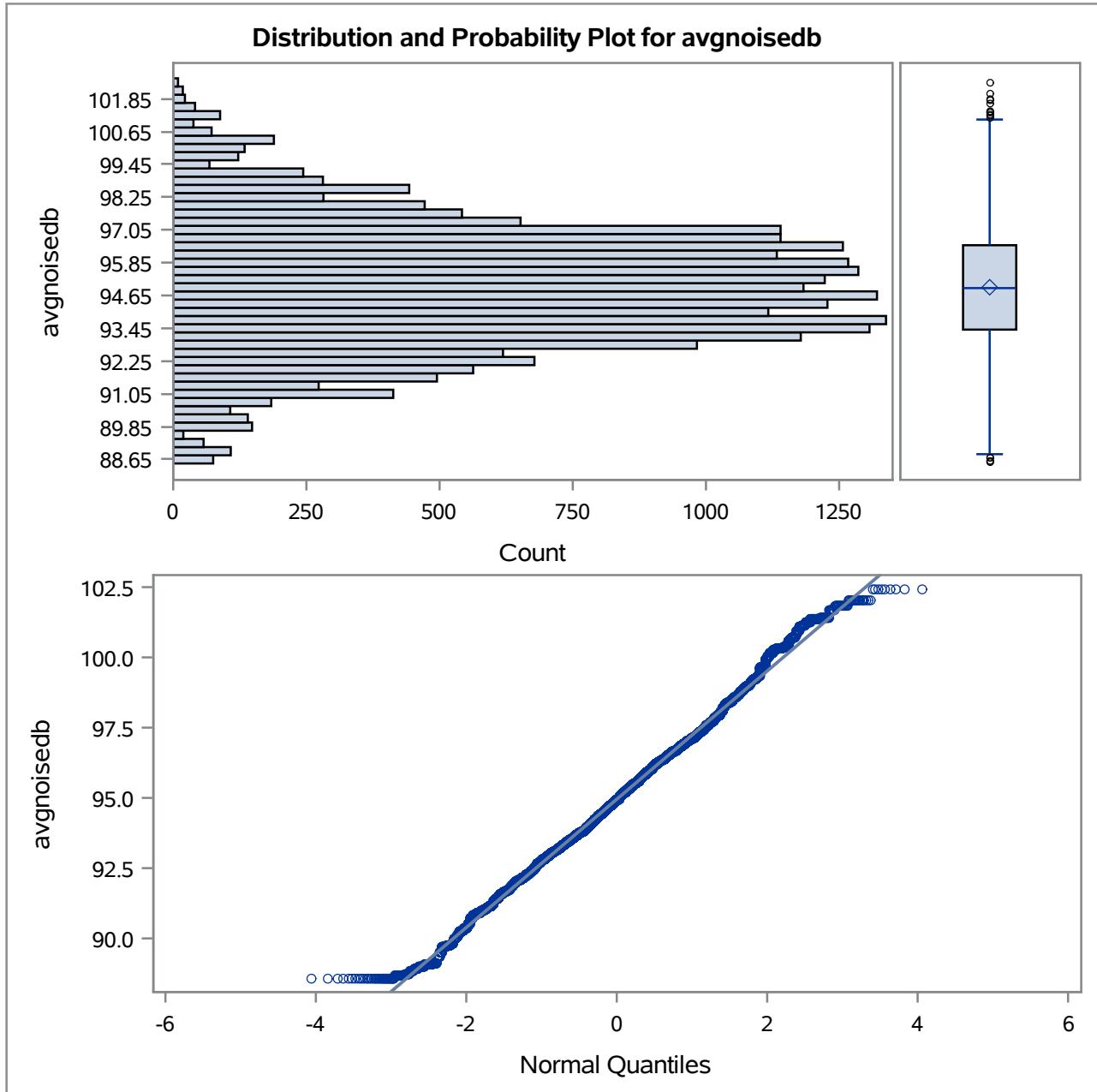
<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	102.43
<b>99%</b>	100.72
<b>95%</b>	98.75
<b>90%</b>	97.75
<b>75% Q3</b>	96.49
<b>50% Median</b>	94.92
<b>25% Q1</b>	93.40

**Outlier Identification for continuous-valued variable**

The UNIVARIATE Procedure  
Variable: avgnoisedb (avgnoisedb)

Quantiles (Definition 5)	
Level	Quantile
10%	92.08
5%	91.22
1%	89.50
0% Min	88.56

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
88.56	21265	102.43	15664
88.56	21264	102.43	15665
88.56	21263	102.43	15666
88.56	21262	102.43	15667
88.56	21261	102.43	22771

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: game\_date (game\_date)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	38915.0686	<b>Sum Observations</b>	1000000518
<b>Std Deviation</b>	1765.68632	<b>Variance</b>	3117648.19
<b>Skewness</b>	0.036957	<b>Kurtosis</b>	-0.9024157
<b>Uncorrected SS</b>	3.89952E13	<b>Corrected SS</b>	8.01111E10
<b>Coeff Variation</b>	4.53728179	<b>Std Error Mean</b>	11.0146916

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	38915.07	<b>Std Deviation</b>	1766
<b>Median</b>	39026.00	<b>Variance</b>	3117648
<b>Mode</b>	42473.00	<b>Range</b>	7101
		<b>Interquartile Range</b>	2851

<b>Tests for Location: Mu0=0</b>				
Test	<b>Statistic</b>		<b>p Value</b>	
<b>Student's t</b>	<b>t</b>	3533.015	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	12848.5	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.6509E8	<b>Pr &gt;=  S </b>	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	2851.000	2113.449
<b>Gini's Mean Difference</b>	2029.837	1798.896
<b>MAD</b>	1423.000	2109.740
<b>Sn</b>	1912.930	1912.997
<b>Qn</b>	1781.964	1781.867

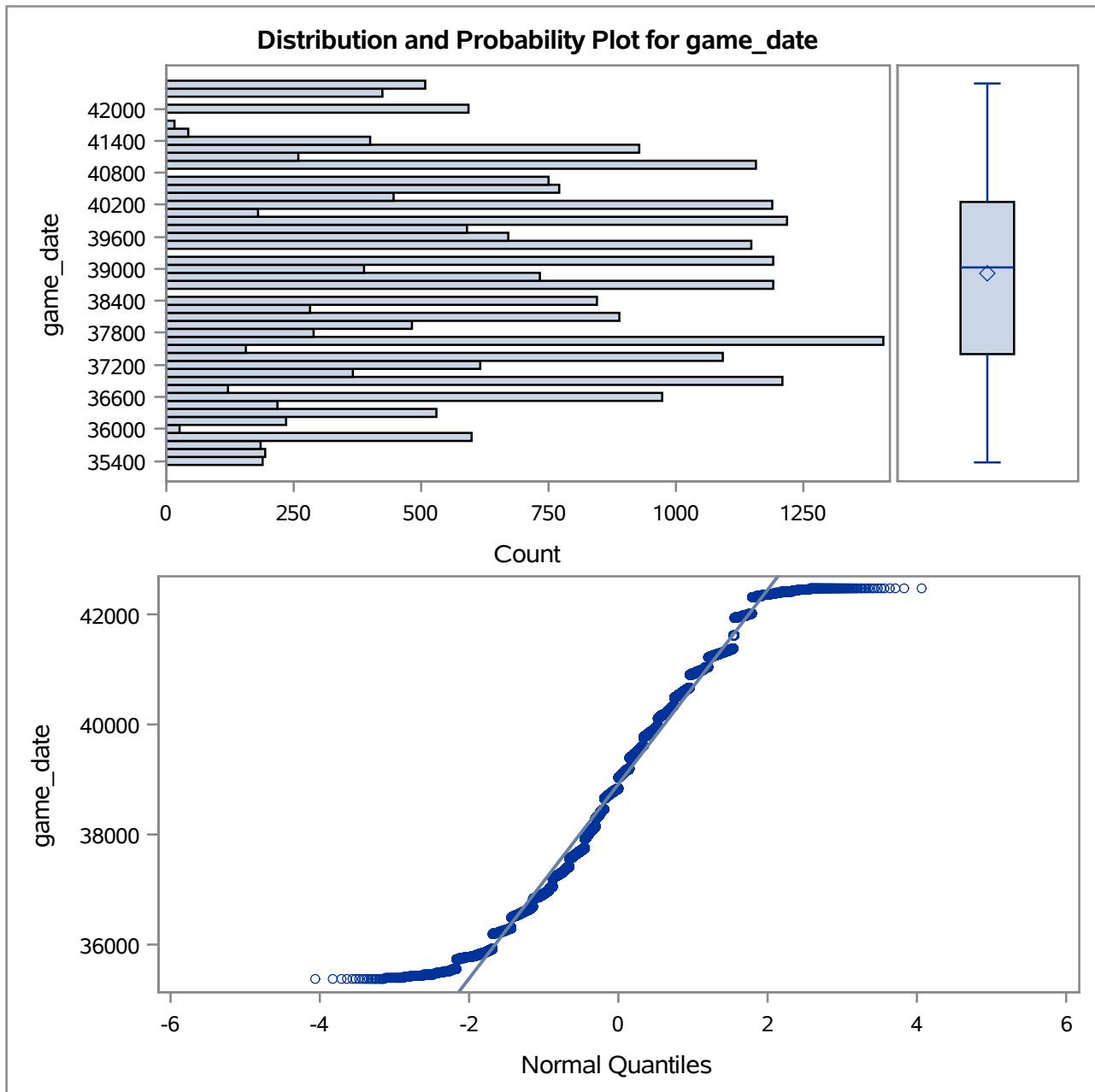
<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	42473
<b>99%</b>	42422
<b>95%</b>	41962
<b>90%</b>	41252
<b>75% Q3</b>	40253
<b>50% Median</b>	39026
<b>25% Q1</b>	37402

**Outlier Identification for continuous-valued variable**

The UNIVARIATE Procedure  
Variable: game\_date (game\_date)

Quantiles (Definition 5)	
Level	Quantile
10%	36586
5%	36208
1%	35512
0% Min	35372

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
35372	5321	42473	23498
35374	5322	42473	23499
35375	23503	42473	23500
35375	16251	42473	23501
35375	5323	42473	23502

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

### The UNIVARIATE Procedure Variable: lat (lat)

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	33.9530427	<b>Sum Observations</b>	872491.337
<b>Std Deviation</b>	0.08815211	<b>Variance</b>	0.00777079
<b>Skewness</b>	-0.8406873	<b>Kurtosis</b>	1.38955138
<b>Uncorrected SS</b>	29623935.3	<b>Corrected SS</b>	199.678319
<b>Coeff Variation</b>	0.25962948	<b>Std Error Mean</b>	0.00054991

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	33.95304	<b>Std Deviation</b>	0.08815
<b>Median</b>	33.97030	<b>Variance</b>	0.00777
<b>Mode</b>	34.04430	<b>Range</b>	0.83500
		<b>Interquartile Range</b>	0.15600

<b>Tests for Location: Mu0=0</b>				
Test	<b>Statistic</b>		<b>p Value</b>	
<b>Student's t</b>	<b>t</b>	61742.93	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	12848.5	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.6509E8	<b>Pr &gt;=  S </b>	<.0001

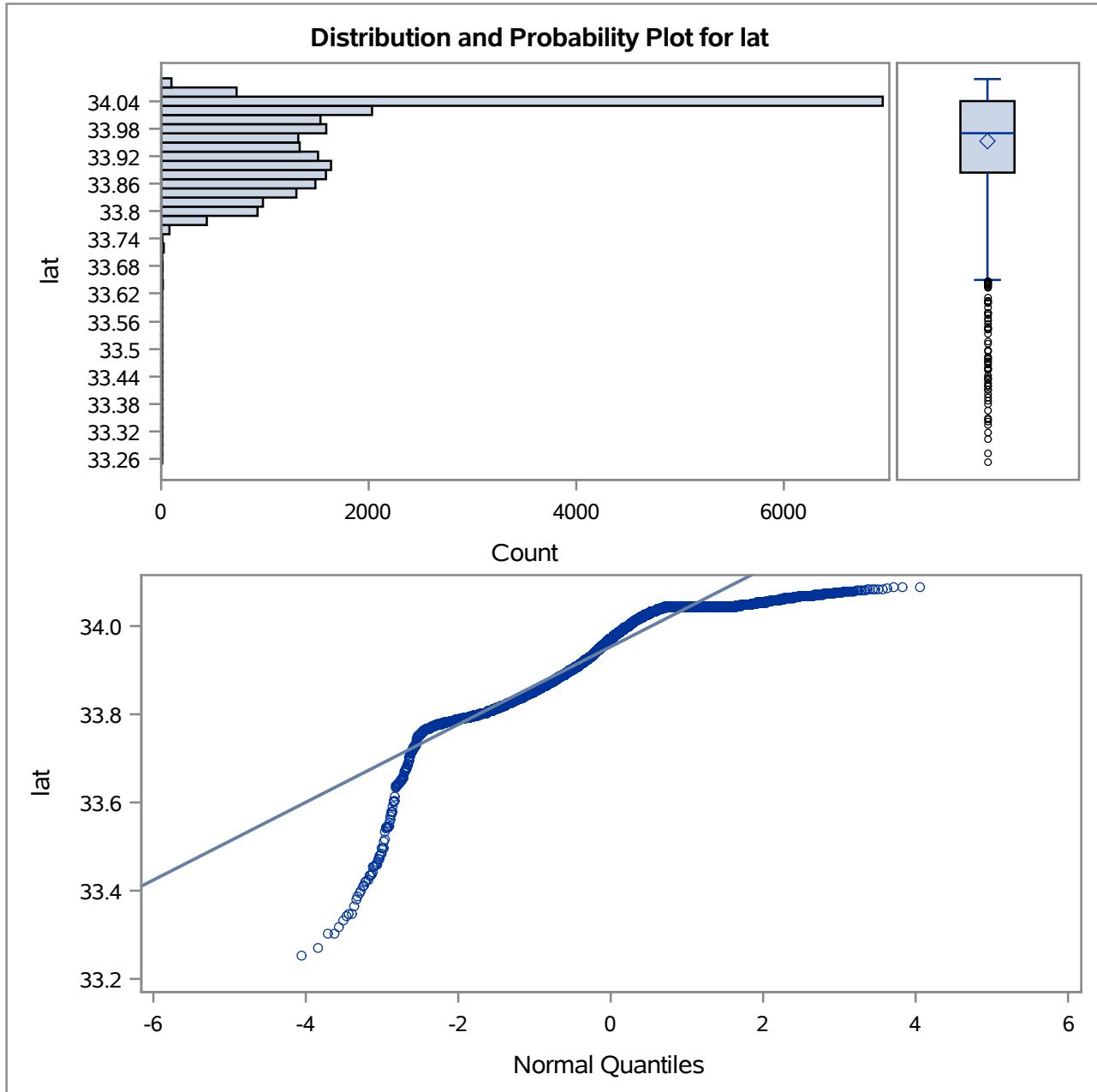
<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	0.156000	0.115643
<b>Gini's Mean Difference</b>	0.097444	0.086357
<b>MAD</b>	0.074000	0.109712
<b>Sn</b>	0.094215	0.094219
<b>Qn</b>	0.071101	0.071097

<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	34.0883
<b>99%</b>	34.0623
<b>95%</b>	34.0453
<b>90%</b>	34.0443
<b>75% Q3</b>	34.0403
<b>50% Median</b>	33.9703
<b>25% Q1</b>	33.8843

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**  
**Variable: lat (lat)**

Quantiles (Definition 5)	
Level	Quantile
10%	33.8293
5%	33.8033
1%	33.7733
0% Min	33.2533

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
33.2533	17834	34.0843	4695
33.2713	17831	34.0863	17149
33.3033	17805	34.0873	15720
33.3033	17791	34.0883	4692
33.3163	17835	34.0883	13236

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: lon (lon)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	-118.26265	<b>Sum Observations</b>	-3038995.4
<b>Std Deviation</b>	0.11007315	<b>Variance</b>	0.0121161
<b>Skewness</b>	-0.0849303	<b>Kurtosis</b>	-0.6711541
<b>Uncorrected SS</b>	359399960	<b>Corrected SS</b>	311.335244
<b>Coeff Variation</b>	-0.0930752	<b>Std Error Mean</b>	0.00068666

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	-118.263	<b>Std Deviation</b>	0.11007
<b>Median</b>	-118.270	<b>Variance</b>	0.01212
<b>Mode</b>	-118.270	<b>Range</b>	0.49800
		<b>Interquartile Range</b>	0.16100

<b>Tests for Location: Mu0=0</b>				
Test	Statistic		p Value	
Student's t	t	-172229	Pr >  t	<.0001
Sign	M	-12848.5	Pr >=  M	<.0001
Signed Rank	S	-1.651E8	Pr >=  S	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
Interquartile Range	0.161000	0.119349
Gini's Mean Difference	0.124744	0.110552
MAD	0.084000	0.124538
Sn	0.102564	0.102567
Qn	0.106651	0.106645

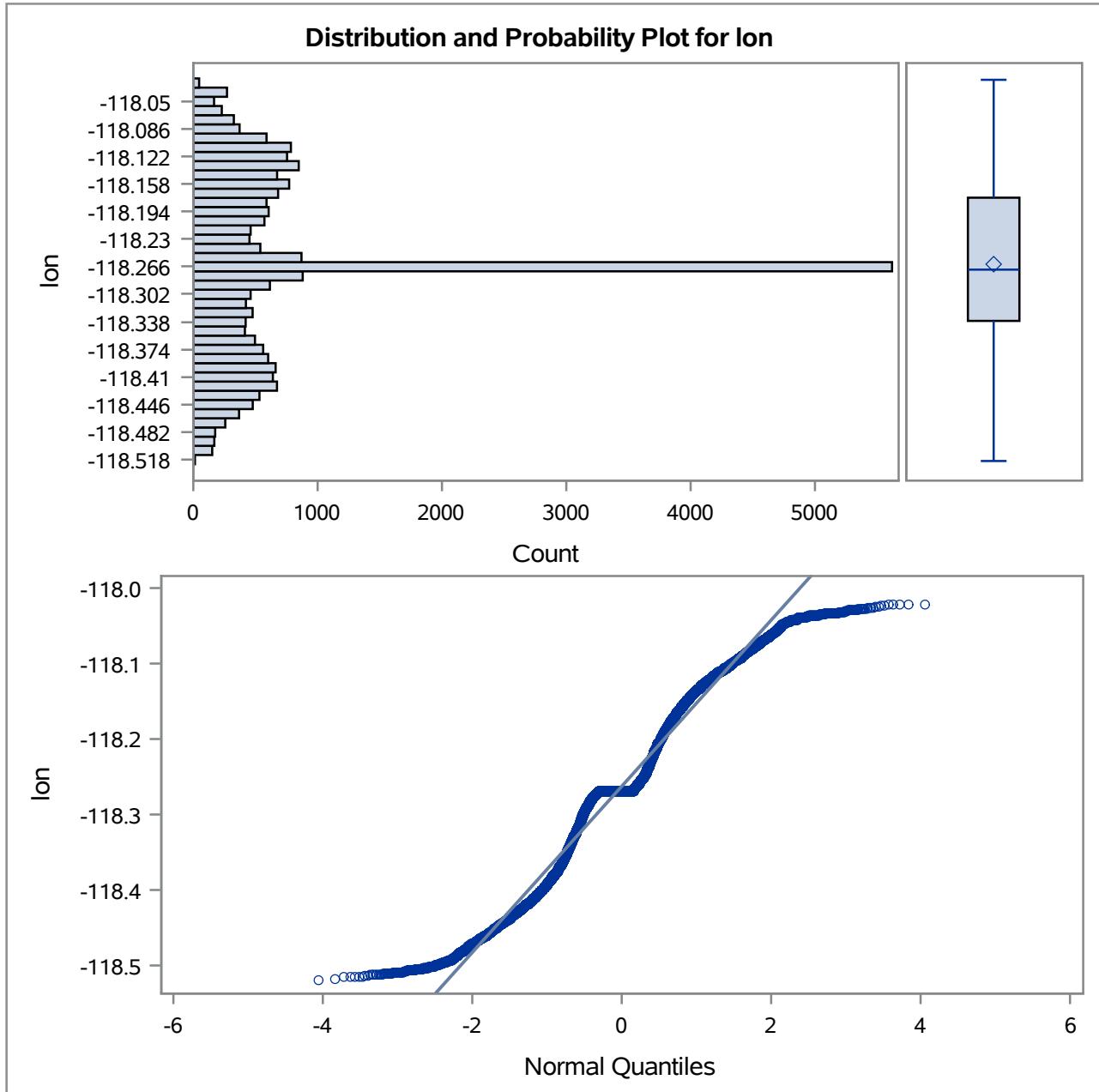
<b>Quantiles (Definition 5)</b>	
Level	Quantile
100% Max	-118.022
99%	-118.042
95%	-118.088
90%	-118.114
75% Q3	-118.176
50% Median	-118.270
25% Q1	-118.337

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: lon (lon)**

Quantiles (Definition 5)	
Level	Quantile
10%	-118.421
5%	-118.447
1%	-118.495
0% Min	-118.520

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-118.520	10834	-118.022	7506
-118.518	10157	-118.022	8291
-118.516	10629	-118.022	8356
-118.516	10312	-118.022	8796
-118.515	12066	-118.022	8852

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: playoffs (playoffs)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	0.14624275	<b>Sum Observations</b>	3758
<b>Std Deviation</b>	0.35335629	<b>Variance</b>	0.12486067
<b>Skewness</b>	2.00242527	<b>Kurtosis</b>	2.00986338
<b>Uncorrected SS</b>	3758	<b>Corrected SS</b>	3208.41974
<b>Coeff Variation</b>	241.623114	<b>Std Error Mean</b>	0.0022043

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	0.146243	<b>Std Deviation</b>	0.35336
<b>Median</b>	0.000000	<b>Variance</b>	0.12486
<b>Mode</b>	0.000000	<b>Range</b>	1.00000
		<b>Interquartile Range</b>	0

<b>Tests for Location: Mu0=0</b>				
Test	Statistic		p Value	
Student's t	t	66.34417	Pr >  t	<.0001
Sign	M	1879	Pr >=  M	<.0001
Signed Rank	S	3531581	Pr >=  S	<.0001

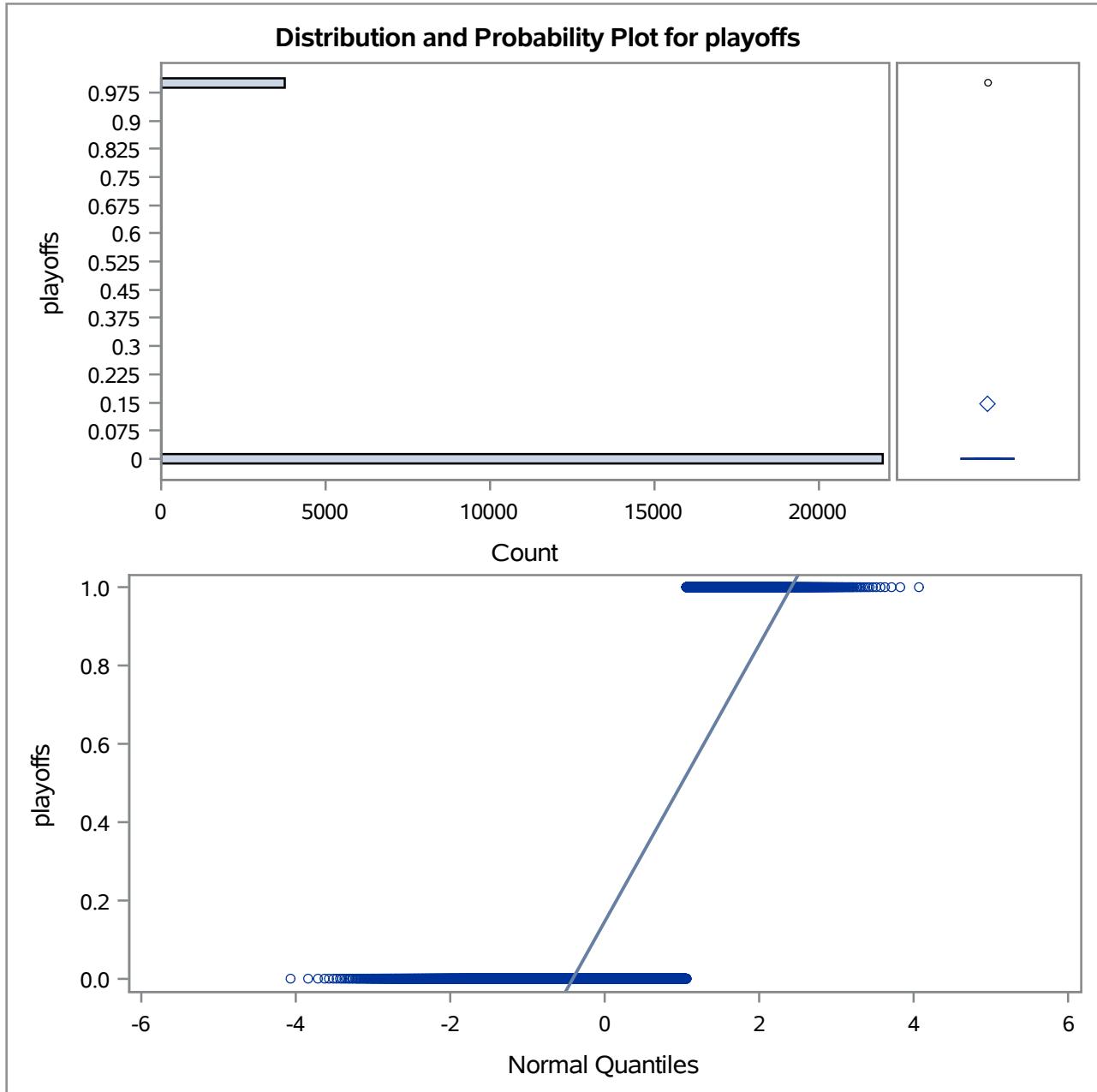
<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
Interquartile Range	0.000000	0.000000
Gini's Mean Difference	0.249721	0.221310
MAD	0.000000	0.000000
Sn	0.000000	0.000000
Qn	0.000000	0.000000

<b>Quantiles (Definition 5)</b>	
Level	Quantile
100% Max	1
99%	1
95%	1
90%	1
75% Q3	0
50% Median	0
25% Q1	0

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**  
**Variable: playoffs (playoffs)**

Quantiles (Definition 5)	
Level	Quantile
10%	0
5%	0
1%	0
0% Min	0

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0	24541	1	25693
0	24540	1	25694
0	24539	1	25695
0	24538	1	25696
0	24537	1	25697

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: loc\_y (loc\_y)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	91.2573452	<b>Sum Observations</b>	2345040
<b>Std Deviation</b>	88.1521064	<b>Variance</b>	7770.79387
<b>Skewness</b>	0.84068727	<b>Kurtosis</b>	1.38955138
<b>Uncorrected SS</b>	413680444	<b>Corrected SS</b>	199678319
<b>Coeff Variation</b>	96.5972725	<b>Std Error Mean</b>	0.54990983

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	91.25735	<b>Std Deviation</b>	88.15211
<b>Median</b>	74.00000	<b>Variance</b>	7771
<b>Mode</b>	0.00000	<b>Range</b>	835.00000
		<b>Interquartile Range</b>	156.00000

<b>Tests for Location: Mu0=0</b>				
Test	Statistic		p Value	
<b>Student's t</b>	<b>t</b>	165.9497	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	9220	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.0797E8	<b>Pr &gt;=  S </b>	<.0001

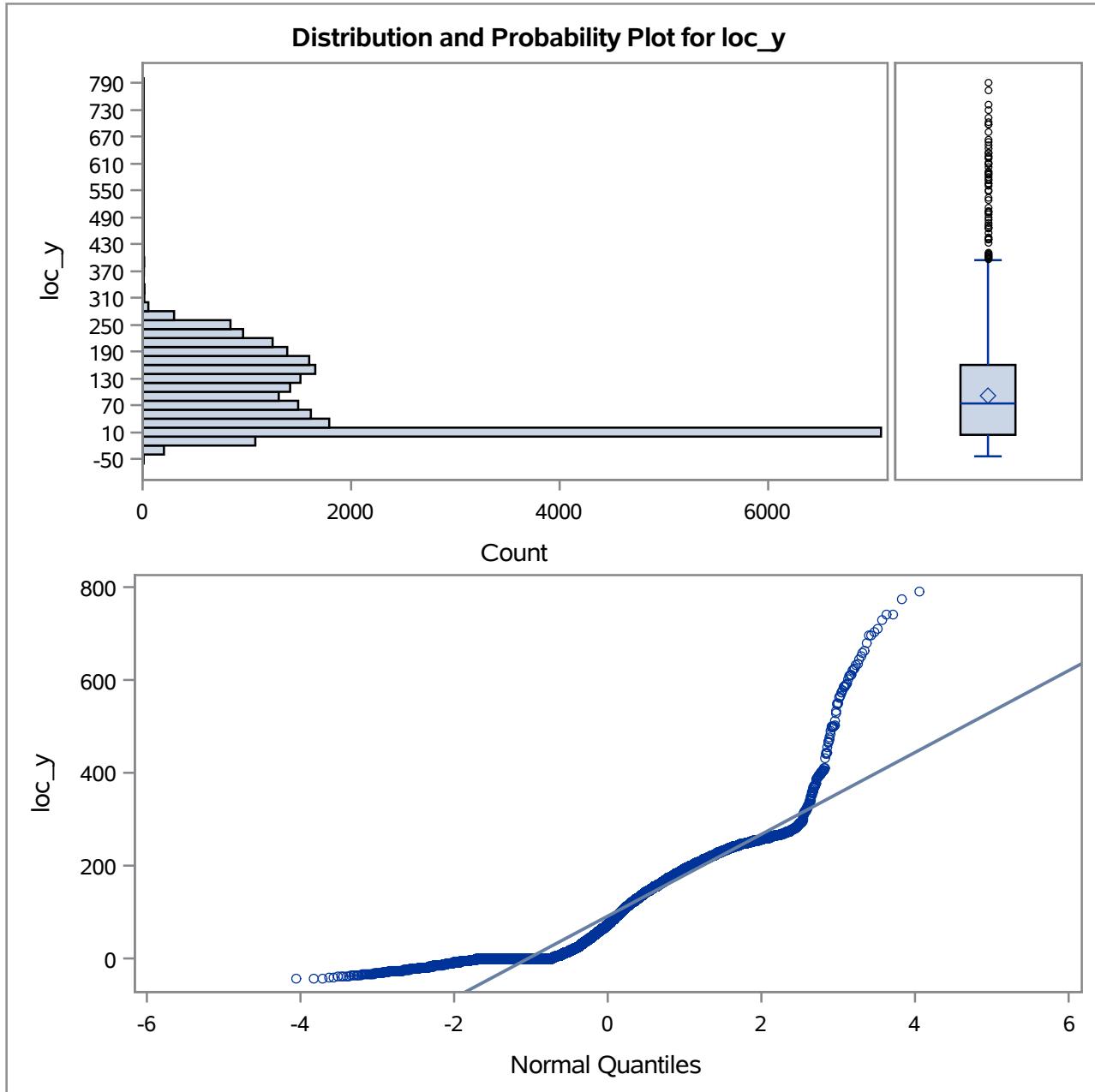
<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	156.0000	115.6429
<b>Gini's Mean Difference</b>	97.4436	86.3572
<b>MAD</b>	74.0000	109.7124
<b>Sn</b>	94.2154	94.2187
<b>Qn</b>	71.1008	71.0969

<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	791
<b>99%</b>	271
<b>95%</b>	241
<b>90%</b>	215
<b>75% Q3</b>	160
<b>50% Median</b>	74
<b>25% Q1</b>	4

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**  
**Variable: loc\_y (loc\_y)**

Quantiles (Definition 5)	
Level	Quantile
10%	0
5%	-1
1%	-18
0% Min	-44

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-44	13236	728	17835
-44	4692	741	17791
-43	15720	741	17805
-42	17149	773	17831
-40	4695	791	17834

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: loc\_x (loc\_x)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	7.14842199	<b>Sum Observations</b>	183693
<b>Std Deviation</b>	110.073147	<b>Variance</b>	12116.0976
<b>Skewness</b>	-0.0849303	<b>Kurtosis</b>	-0.6711541
<b>Uncorrected SS</b>	312648359	<b>Corrected SS</b>	311335244
<b>Coeff Variation</b>	1539.82441	<b>Std Error Mean</b>	0.6866575

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	7.148422	<b>Std Deviation</b>	110.07315
<b>Median</b>	0.000000	<b>Variance</b>	12116
<b>Mode</b>	0.000000	<b>Range</b>	498.00000
		<b>Interquartile Range</b>	161.00000

<b>Tests for Location: Mu0=0</b>				
Test	<b>Statistic</b>		<b>p Value</b>	
<b>Student's t</b>	<b>t</b>	10.41046	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	895	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	9269844	<b>Pr &gt;=  S </b>	<.0001

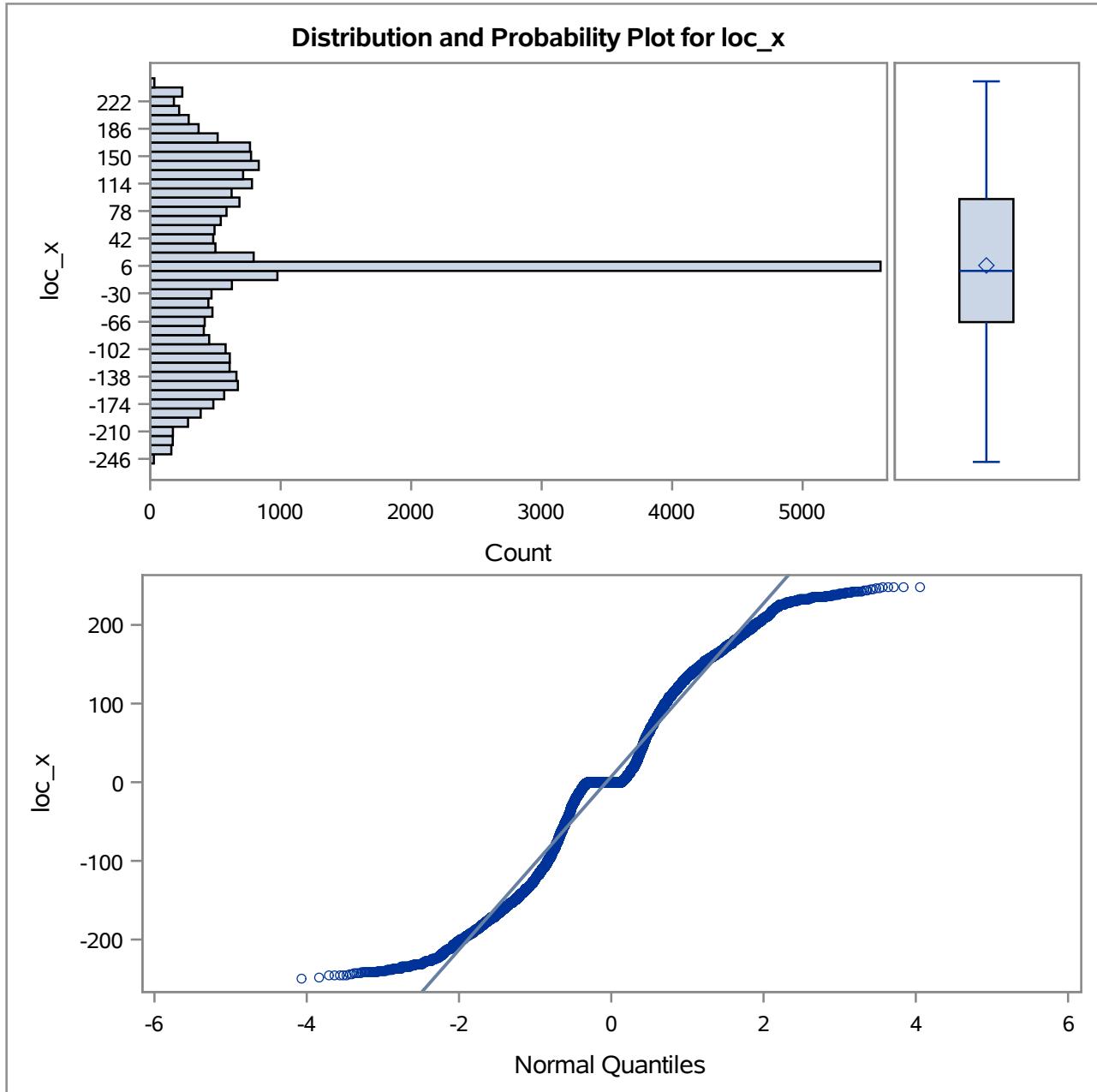
<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	161.0000	119.3494
<b>Gini's Mean Difference</b>	124.7443	110.5518
<b>MAD</b>	84.0000	124.5384
<b>Sn</b>	102.5636	102.5672
<b>Qn</b>	106.6512	106.6454

<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	248
<b>99%</b>	228
<b>95%</b>	182
<b>90%</b>	156
<b>75% Q3</b>	94
<b>50% Median</b>	0
<b>25% Q1</b>	-67

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**  
**Variable: loc\_x (loc\_x)**

Quantiles (Definition 5)	
Level	Quantile
10%	-151
5%	-177
1%	-225
0% Min	-250

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
-250	10834	248	7506
-248	10157	248	8291
-246	10629	248	8356
-246	10312	248	8796
-245	12066	248	8852

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: minutes\_remaining (minutes\_remaining)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	4.88679612	<b>Sum Observations</b>	125576
<b>Std Deviation</b>	3.45247539	<b>Variance</b>	11.9195863
<b>Skewness</b>	0.19762443	<b>Kurtosis</b>	-1.1667746
<b>Uncorrected SS</b>	919950	<b>Corrected SS</b>	306285.69
<b>Coeff Variation</b>	70.6490572	<b>Std Error Mean</b>	0.02153721

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	4.886796	<b>Std Deviation</b>	3.45248
<b>Median</b>	5.000000	<b>Variance</b>	11.91959
<b>Mode</b>	0.000000	<b>Range</b>	11.00000
		<b>Interquartile Range</b>	6.00000

<b>Tests for Location: Mu0=0</b>				
Test	Statistic		p Value	
Student's t	t	226.9002	Pr >  t	<.0001
Sign	M	11224.5	Pr >=  M	<.0001
Signed Rank	S	1.26E8	Pr >=  S	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
Interquartile Range	6.000000	4.447805
Gini's Mean Difference	3.960802	3.510169
MAD	3.000000	4.447800
Sn	3.577800	3.577925
Qn	4.443800	4.443558

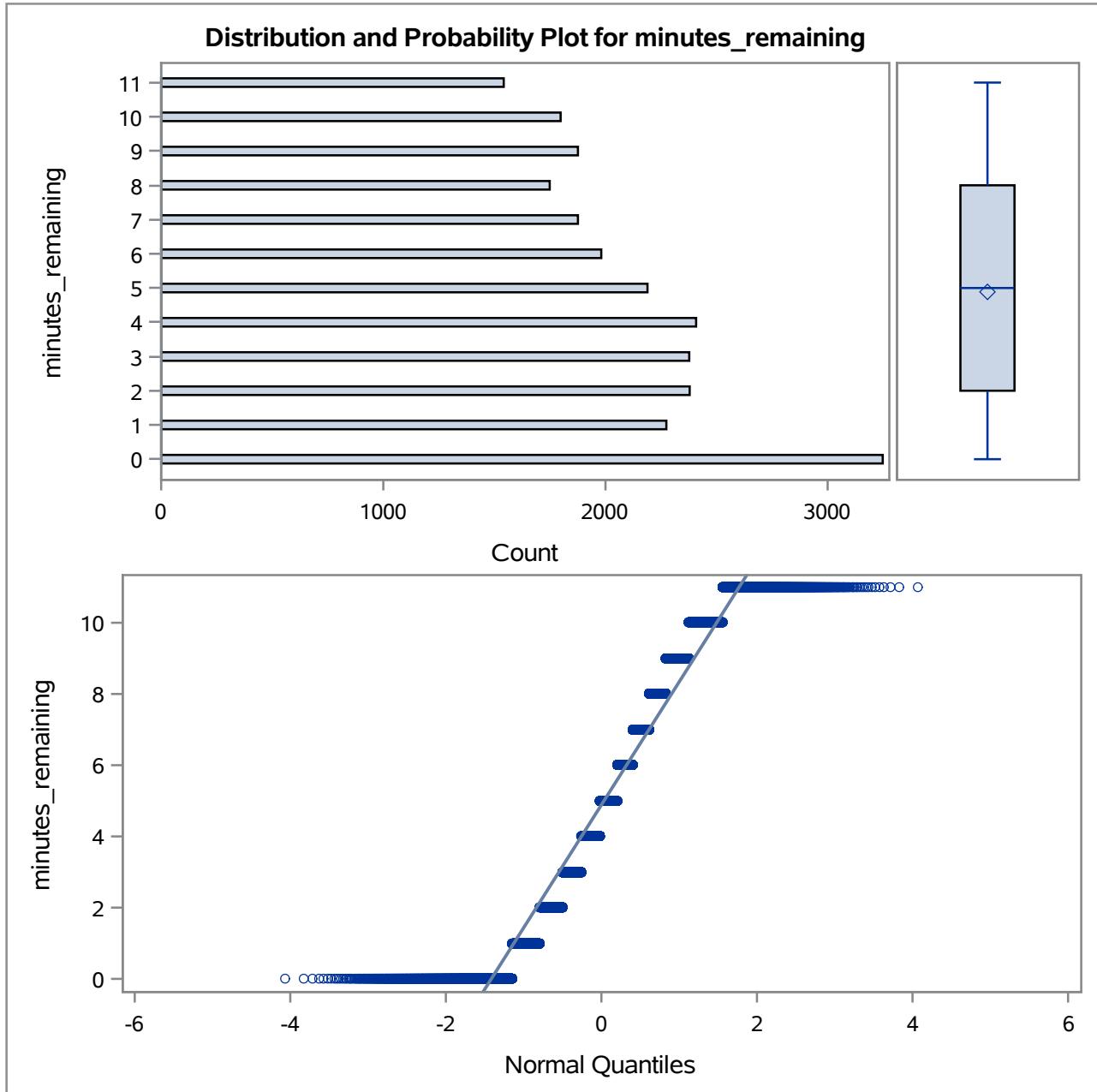
<b>Quantiles (Definition 5)</b>	
Level	Quantile
100% Max	11
99%	11
95%	11
90%	10
75% Q3	8
50% Median	5
25% Q1	2

**Outlier Identification for continuous-valued variable**

The UNIVARIATE Procedure  
Variable: minutes\_remaining (minutes\_remaining)

Quantiles (Definition 5)	
Level	Quantile
10%	0
5%	0
1%	0
0% Min	0

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0	25697	11	25598
0	25694	11	25637
0	25684	11	25656
0	25680	11	25658
0	25672	11	25666

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: seconds\_remaining (seconds\_remaining)**

Moments			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	28.3115539	<b>Sum Observations</b>	727522
<b>Std Deviation</b>	17.5233918	<b>Variance</b>	307.06926
<b>Skewness</b>	0.03525222	<b>Kurtosis</b>	-1.1917687
<b>Uncorrected SS</b>	28487730	<b>Corrected SS</b>	7890451.7
<b>Coeff Variation</b>	61.8948429	<b>Std Error Mean</b>	0.1093143

Basic Statistical Measures			
Location		Variability	
<b>Mean</b>	28.31155	<b>Std Deviation</b>	17.52339
<b>Median</b>	28.00000	<b>Variance</b>	307.06926
<b>Mode</b>	0.00000	<b>Range</b>	59.00000
		<b>Interquartile Range</b>	30.00000

Tests for Location: Mu0=0				
Test	Statistic		p Value	
<b>Student's t</b>	<b>t</b>	258.9922	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	12432	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.5456E8	<b>Pr &gt;=  S </b>	<.0001

Robust Measures of Scale		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	30.00000	22.23903
<b>Gini's Mean Difference</b>	20.22830	17.92687
<b>MAD</b>	15.00000	22.23900
<b>Sn</b>	19.08160	19.08227
<b>Qn</b>	17.77520	17.77423

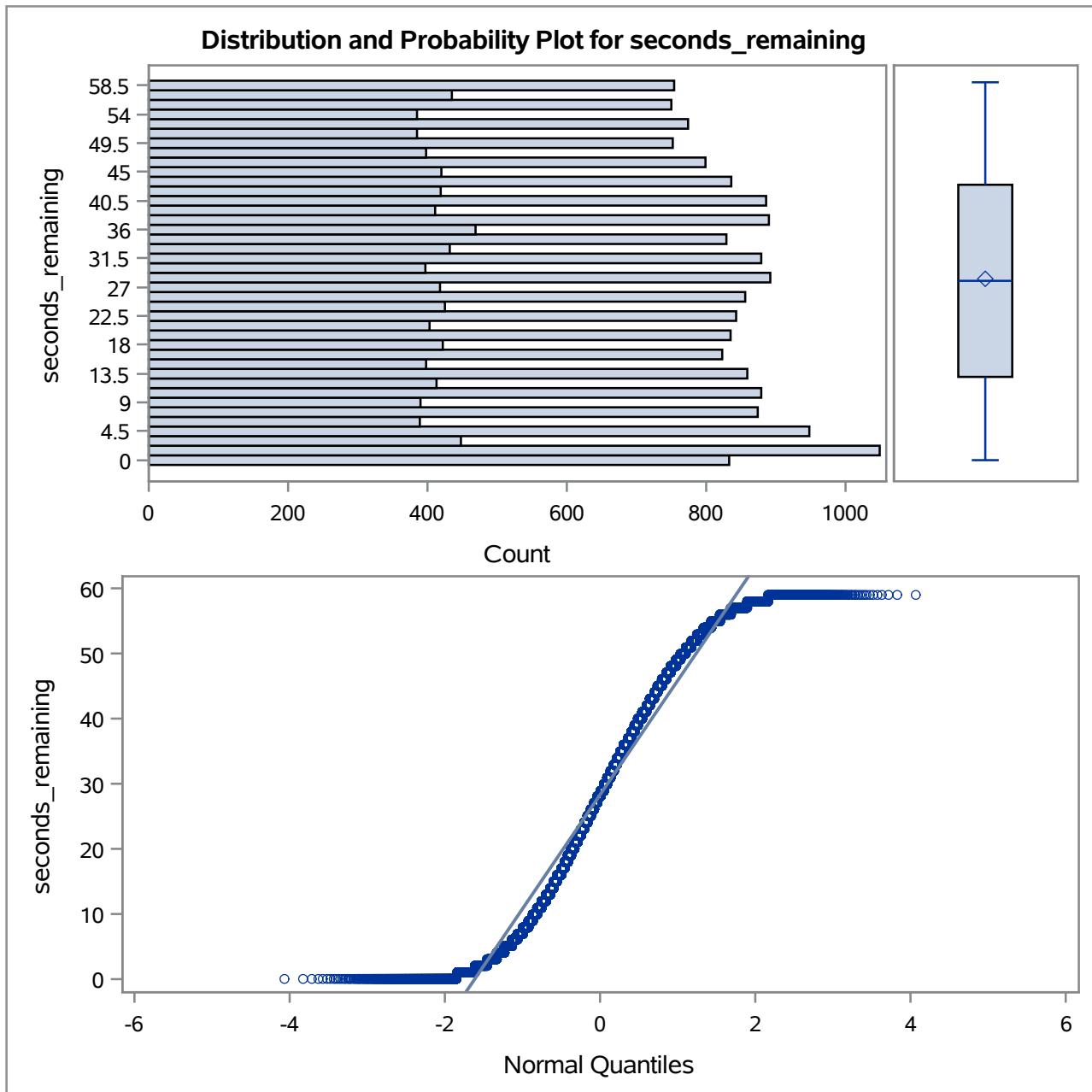
Quantiles (Definition 5)	
Level	Quantile
<b>100% Max</b>	59
<b>99%</b>	59
<b>95%</b>	56
<b>90%</b>	53
<b>75% Q3</b>	43
<b>50% Median</b>	28
<b>25% Q1</b>	13

**Outlier Identification for continuous-valued variable**

The UNIVARIATE Procedure  
Variable: seconds\_remaining (seconds\_remaining)

Quantiles (Definition 5)	
Level	Quantile
10%	4
5%	1
1%	0
0% Min	0

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0	25671	59	25366
0	25621	59	25438
0	25589	59	25449
0	25566	59	25572
0	25559	59	25574

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: shot\_distance (shot\_distance)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	13.4570962	<b>Sum Observations</b>	345807
<b>Std Deviation</b>	9.3887248	<b>Variance</b>	88.1481534
<b>Skewness</b>	0.12720932	<b>Kurtosis</b>	0.15759484
<b>Uncorrected SS</b>	6918613	<b>Corrected SS</b>	2265054.95
<b>Coeff Variation</b>	69.7678362	<b>Std Error Mean</b>	0.05856867

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	13.45710	<b>Std Deviation</b>	9.38872
<b>Median</b>	15.00000	<b>Variance</b>	88.14815
<b>Mode</b>	0.00000	<b>Range</b>	79.00000
		<b>Interquartile Range</b>	16.00000

<b>Tests for Location: Mu0=0</b>				
Test	Statistic		p Value	
<b>Student's t</b>	<b>t</b>	229.7661	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	10544.5	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.1119E8	<b>Pr &gt;=  S </b>	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	16.00000	11.86081
<b>Gini's Mean Difference</b>	10.59300	9.38780
<b>MAD</b>	8.00000	11.86080
<b>Sn</b>	10.73340	10.73378
<b>Qn</b>	8.88760	8.88712

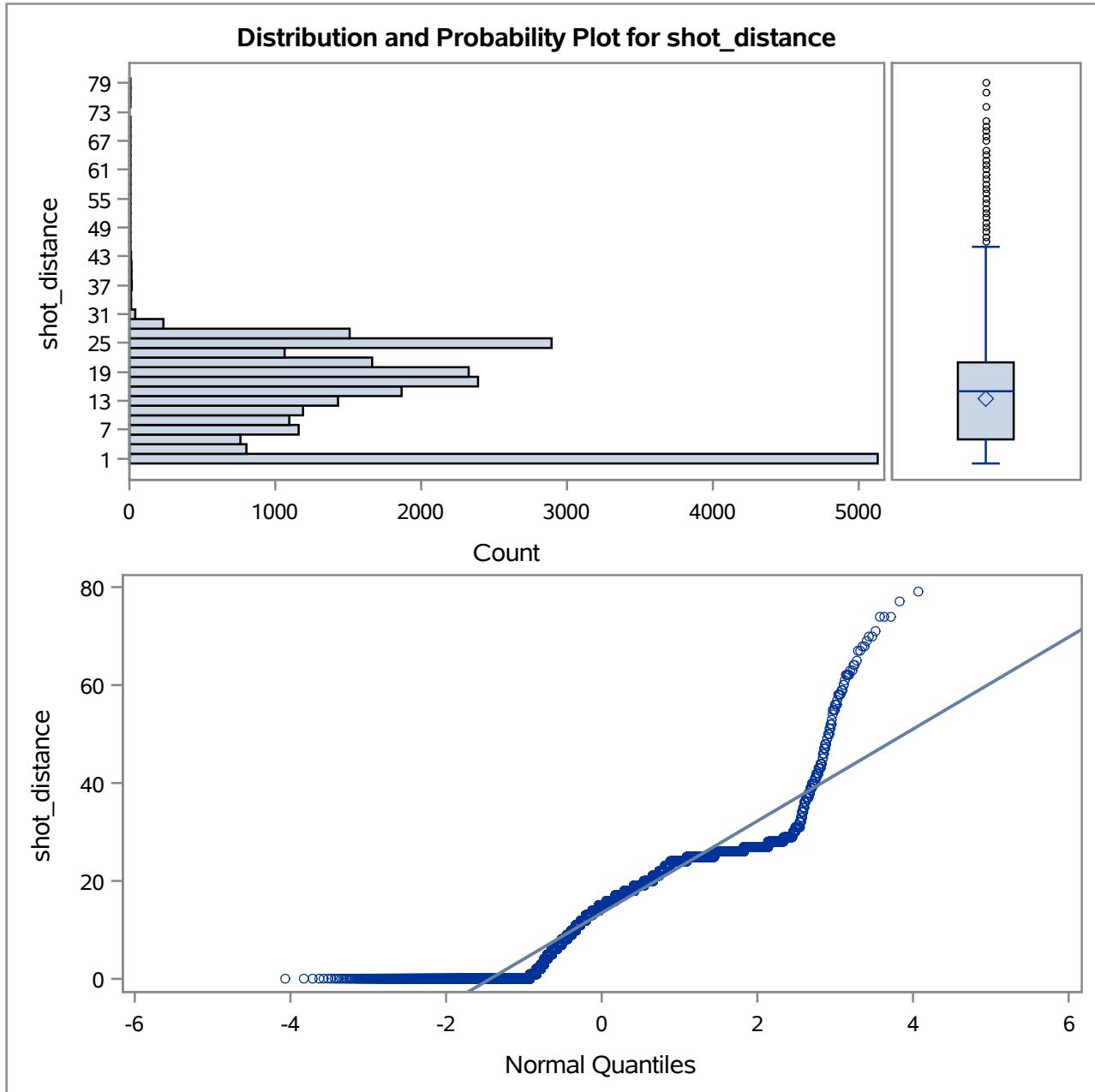
<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	79
<b>99%</b>	28
<b>95%</b>	26
<b>90%</b>	25
<b>75% Q3</b>	21
<b>50% Median</b>	15
<b>25% Q1</b>	5

**Outlier Identification for continuous-valued variable**

The UNIVARIATE Procedure  
Variable: shot\_distance (shot\_distance)

Quantiles (Definition 5)	
Level	Quantile
10%	0
5%	0
1%	0
0% Min	0

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0	25695	74	17791
0	25694	74	17805
0	25692	74	17835
0	25688	77	17831
0	25675	79	17834

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## Outlier Identification for continuous-valued variable

**The UNIVARIATE Procedure**  
**Variable: shot\_id (shot\_id)**

<b>Moments</b>			
<b>N</b>	25697	<b>Sum Weights</b>	25697
<b>Mean</b>	15328.1669	<b>Sum Observations</b>	393887906
<b>Std Deviation</b>	8860.4624	<b>Variance</b>	78507793.9
<b>Skewness</b>	0.00235396	<b>Kurtosis</b>	-1.1971707
<b>Uncorrected SS</b>	8.05492E12	<b>Corrected SS</b>	2.01734E12
<b>Coeff Variation</b>	57.8051011	<b>Std Error Mean</b>	55.273272

<b>Basic Statistical Measures</b>			
<b>Location</b>		<b>Variability</b>	
<b>Mean</b>	15328.17	<b>Std Deviation</b>	8860
<b>Median</b>	15336.00	<b>Variance</b>	78507794
<b>Mode</b>	.	<b>Range</b>	30695
		<b>Interquartile Range</b>	15330

<b>Tests for Location: Mu0=0</b>				
Test	<b>Statistic</b>		<b>p Value</b>	
<b>Student's t</b>	<b>t</b>	277.3161	<b>Pr &gt;  t </b>	<.0001
<b>Sign</b>	<b>M</b>	12848.5	<b>Pr &gt;=  M </b>	<.0001
<b>Signed Rank</b>	<b>S</b>	1.6509E8	<b>Pr &gt;=  S </b>	<.0001

<b>Robust Measures of Scale</b>		
Measure	Value	Estimate of Sigma
<b>Interquartile Range</b>	15330.00	11364.14
<b>Gini's Mean Difference</b>	10231.35	9067.30
<b>MAD</b>	7666.00	11365.61
<b>Sn</b>	9173.48	9173.80
<b>Qn</b>	9145.34	9144.84

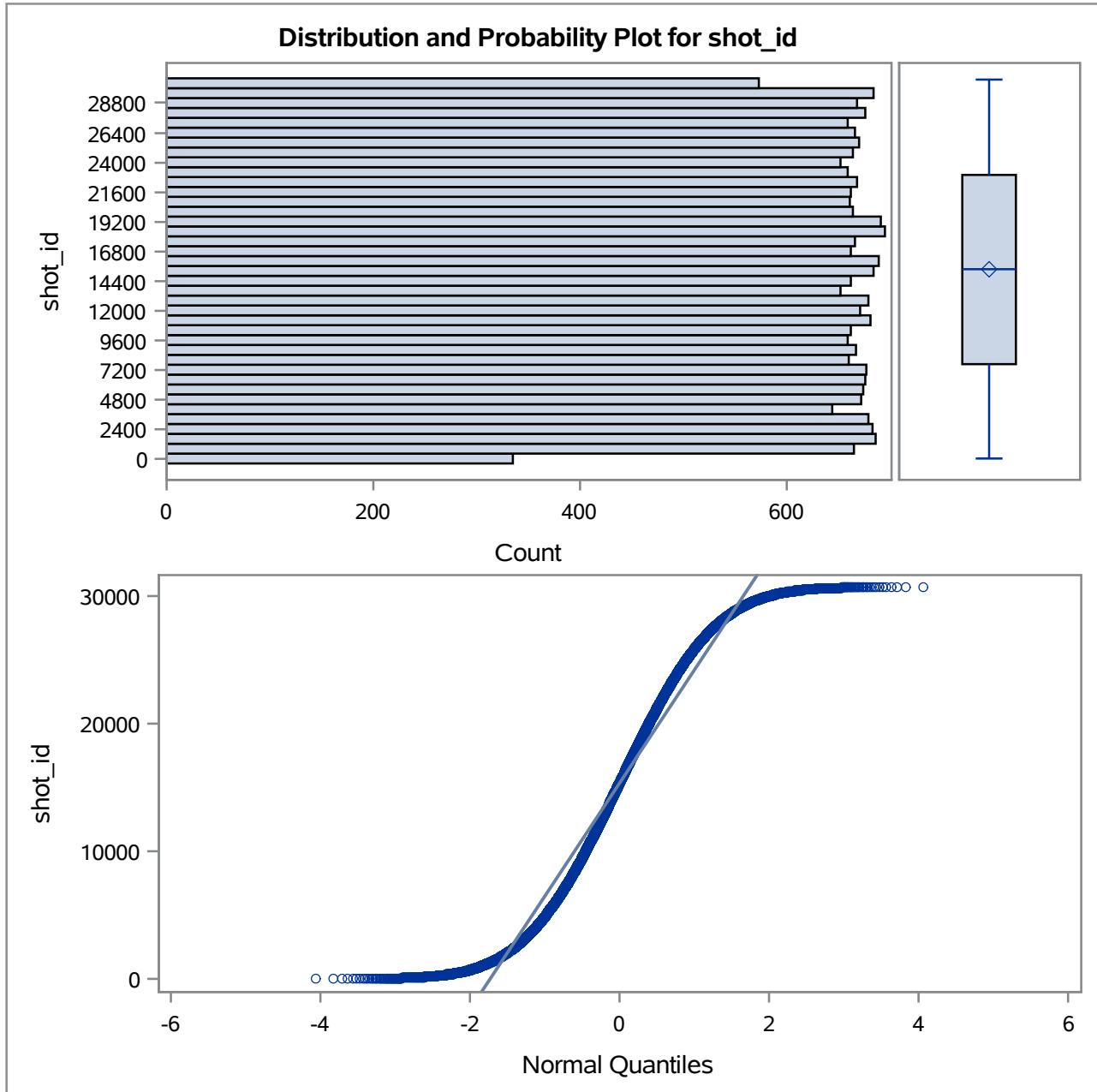
<b>Quantiles (Definition 5)</b>	
Level	Quantile
<b>100% Max</b>	30697
<b>99%</b>	30380
<b>95%</b>	29164
<b>90%</b>	27638
<b>75% Q3</b>	22976
<b>50% Median</b>	15336
<b>25% Q1</b>	7646

**Outlier Identification for continuous-valued variable**

The UNIVARIATE Procedure  
Variable: shot\_id (shot\_id)

Quantiles (Definition 5)	
Level	Quantile
10%	3039
5%	1522
1%	310
0% Min	2

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
2	12189	30692	25695
3	1	30693	25696
4	2	30695	6907
5	17841	30696	12188
6	12190	30697	25697

**Outlier Identification for continuous-valued variable****The UNIVARIATE Procedure**

## The CORR Procedure

<b>1 With Variables:</b>	shot_made_flag
<b>6 Variables:</b>	loc_x loc_y minutes_remaining period seconds_remaining shot_distance

Pearson Correlation Coefficients, N = 25697 Prob >  r  under H0: Rho=0							
<b>shot_made_flag</b>	shot_distance -0.19824 <.0001	loc_y -0.14807 <.0001	period -0.03215 <.0001	seconds_remaining 0.03080 <.0001	minutes_remaining 0.02834 <.0001	loc_x -0.00085 0.8919	
<b>shot_made_flag</b>							

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: shot\_made\_flag shot\_made\_flag**

Number of Observations Read	25697
Number of Observations Used	25697

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	7	260.96417	37.28060	157.29	<.0001
<b>Error</b>	25689	6088.79961	0.23702		
<b>Corrected Total</b>	25696	6349.76379			

Root MSE	0.48685	R-Square	0.0411
Dependent Mean	0.44616	Adj R-Sq	0.0408
Coeff Var	109.11906		

Parameter Estimates								
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Tolerance	Variance Inflation
<b>Intercept</b>	Intercept	1	0.49426	4507.66189	0.00	0.9999	.	0
<b>period</b>	period	1	-0.00961	0.00264	-3.63	0.0003	0.99475	1.00528
<b>lon</b>	lon	1	-0.00076993	38.11338	-0.00	1.0000	5.240842E-7	1908091
<b>loc_y</b>	loc_y	1	0.00025445	0.00006010	4.23	<.0001	0.32865	3.04277
<b>loc_x</b>	loc_x	1	0.00002028	0.03811	0.00	0.9996	5.240842E-7	1908091
<b>minutes_remaining</b>	minutes_remaining	1	0.00221	0.00088338	2.51	0.0122	0.99165	1.00842
<b>seconds_remaining</b>	seconds_remaining	1	0.00057368	0.00017367	3.30	0.0010	0.99593	1.00409
<b>shot_distance</b>	shot_distance	1	-0.01229	0.00056397	-21.79	<.0001	0.32900	3.03955

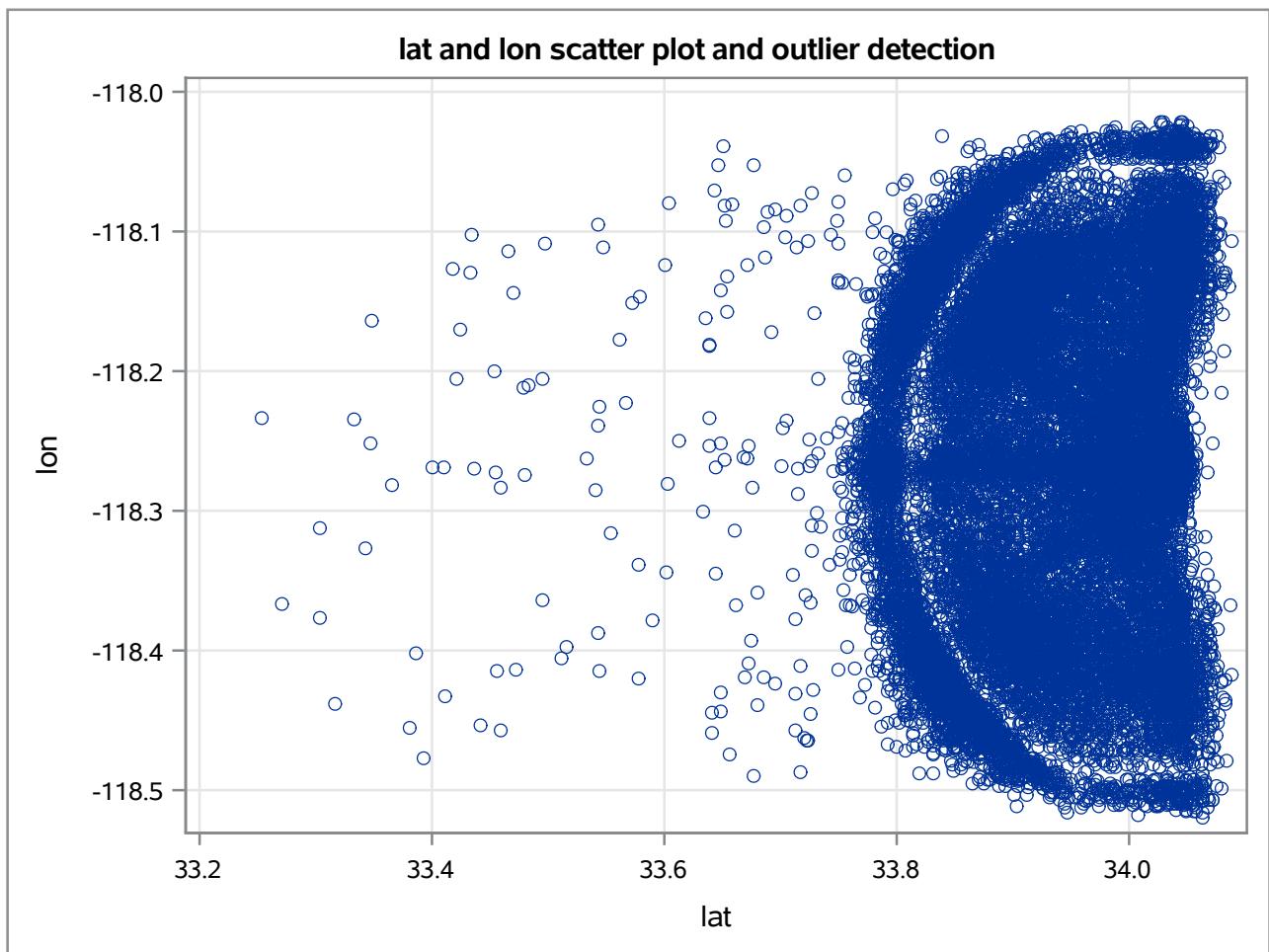
**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: shot\_made\_flag shot\_made\_flag**

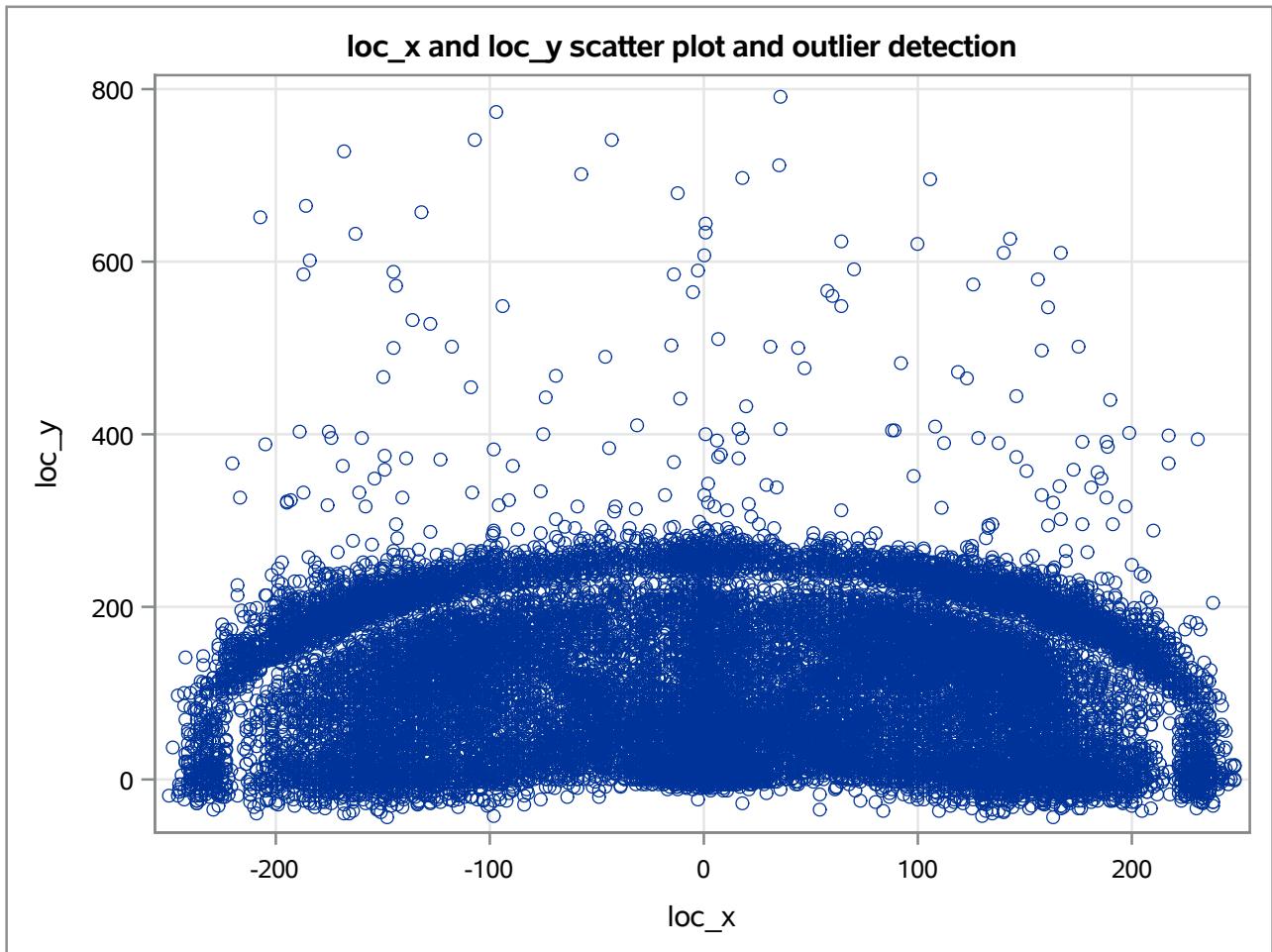
Collinearity Diagnostics		
Number	Eigenvalue	Condition Index
1	5.67149	1.00000
2	0.99604	2.38621
3	0.63866	2.97998
4	0.30506	4.31177
5	0.22357	5.03663
6	0.09730	7.63482
7	0.06787	9.14128
8	1E-12	2381490

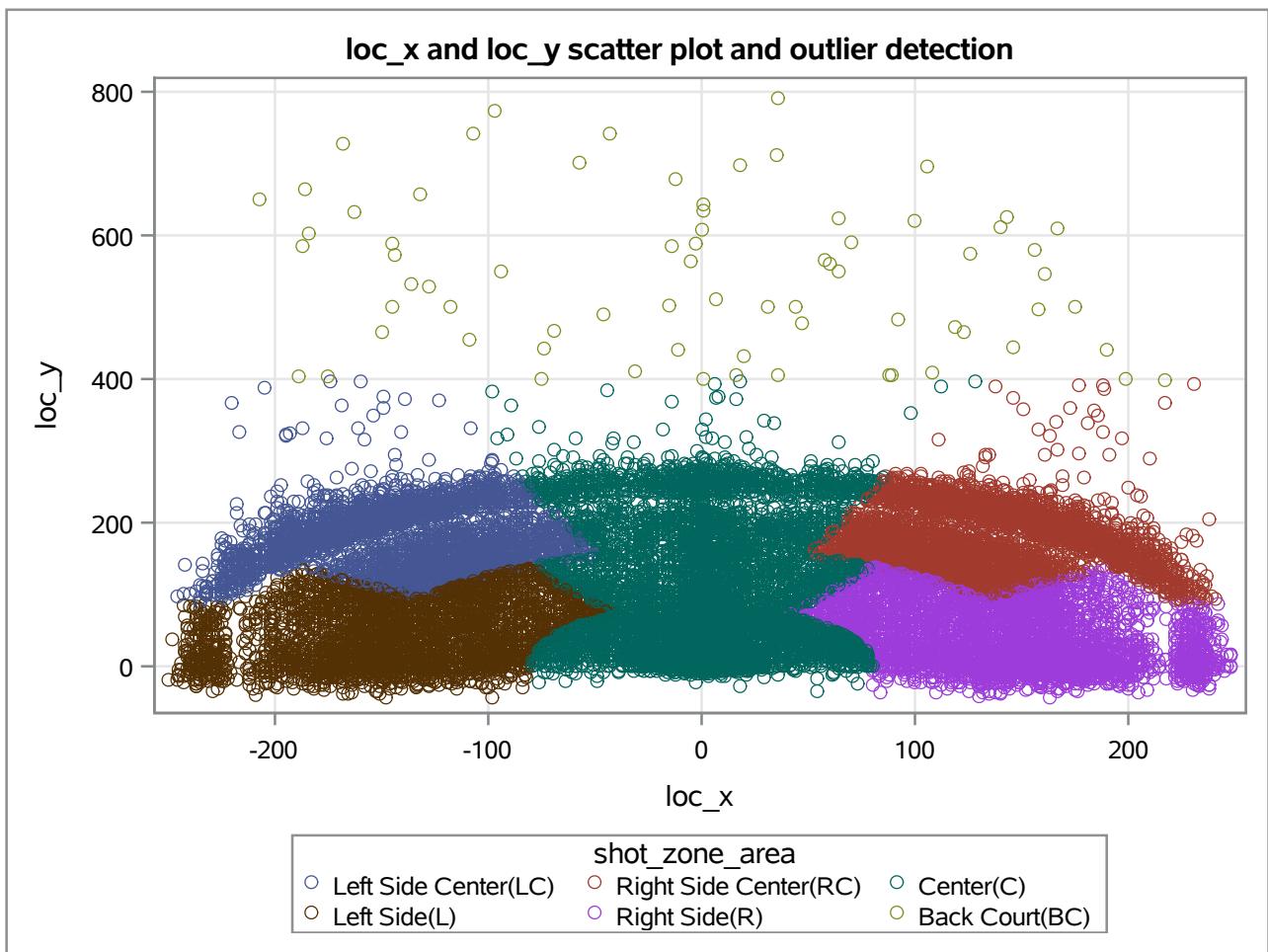
**Collinearity Diagnostics**

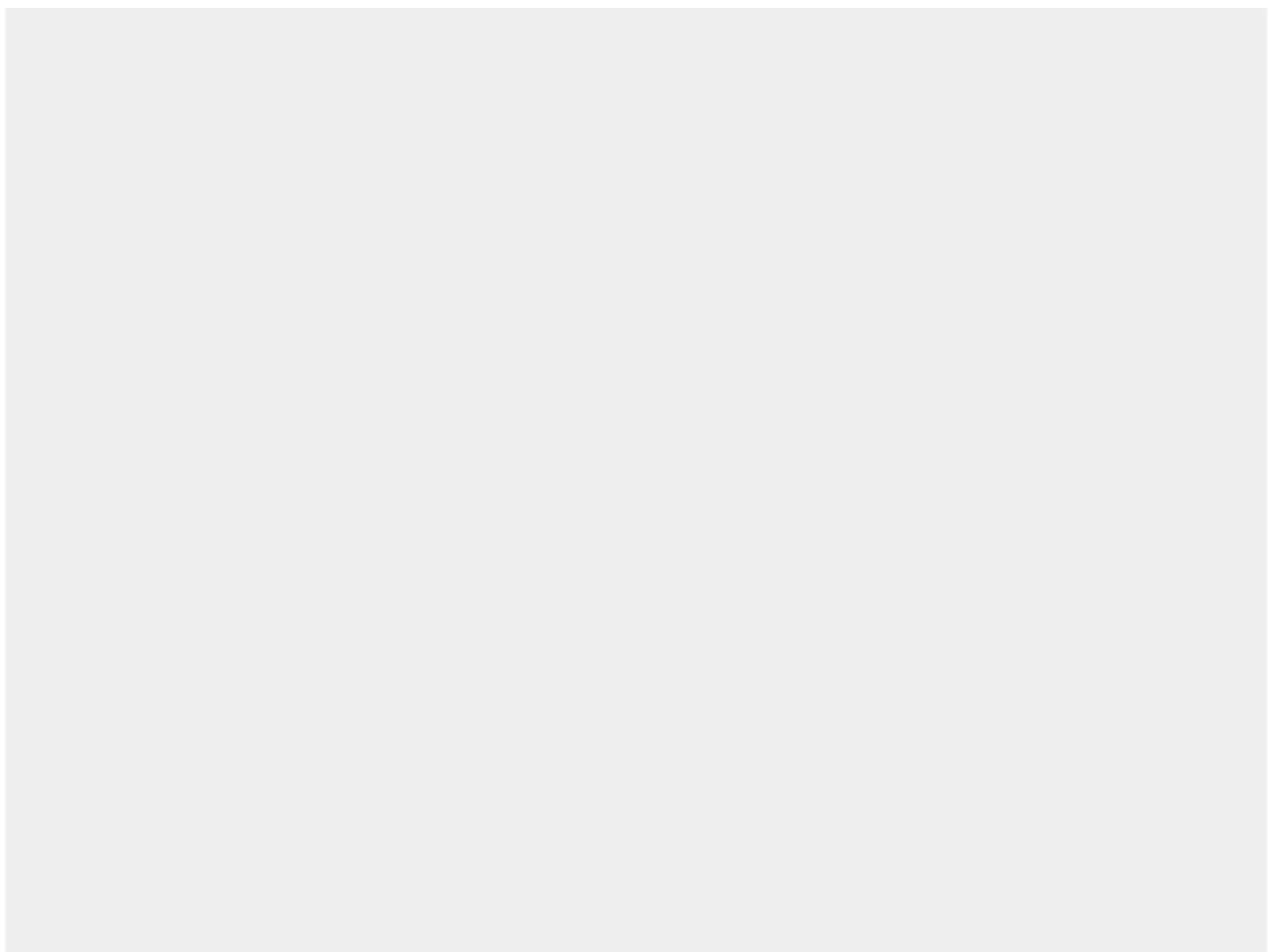
Number	Proportion of Variation								
	Intercept	period	lon	loc_y	loc_x	minutes_remaining	seconds_remaining	shot_distance	
1	5.9174E-14	0.00449	5.91797E-14	0.00329	4.04124E-10	0.00720	0.00645	0.00268	
2	8.01095E-17	0.00008889	1.05509E-16	0.00022225	0.00000230	3.002348E-8	0.00000726	0.00000548	
3	7.20719E-14	0.00631	7.21088E-14	0.11553	1.751644E-9	0.06831	0.03851	0.04108	
4	3.15514E-14	0.02448	3.15545E-14	0.00352	2.04999E-10	0.70648	0.25741	0.00093514	
5	2.53691E-13	0.32914	2.5373E-13	0.01609	6.31981E-10	0.07264	0.54336	0.00122	
6	4.87368E-12	0.61108	4.87514E-12	0.09703	5.861411E-9	0.13833	0.14154	0.03225	
7	1.14378E-12	0.02441	1.14388E-12	0.76432	8.802411E-9	0.00703	0.01271	0.92183	
8	1.00000	1.32285E-13	1.00000	0	1.00000	2.15969E-14	4.70071E-15	1.89713E-15	

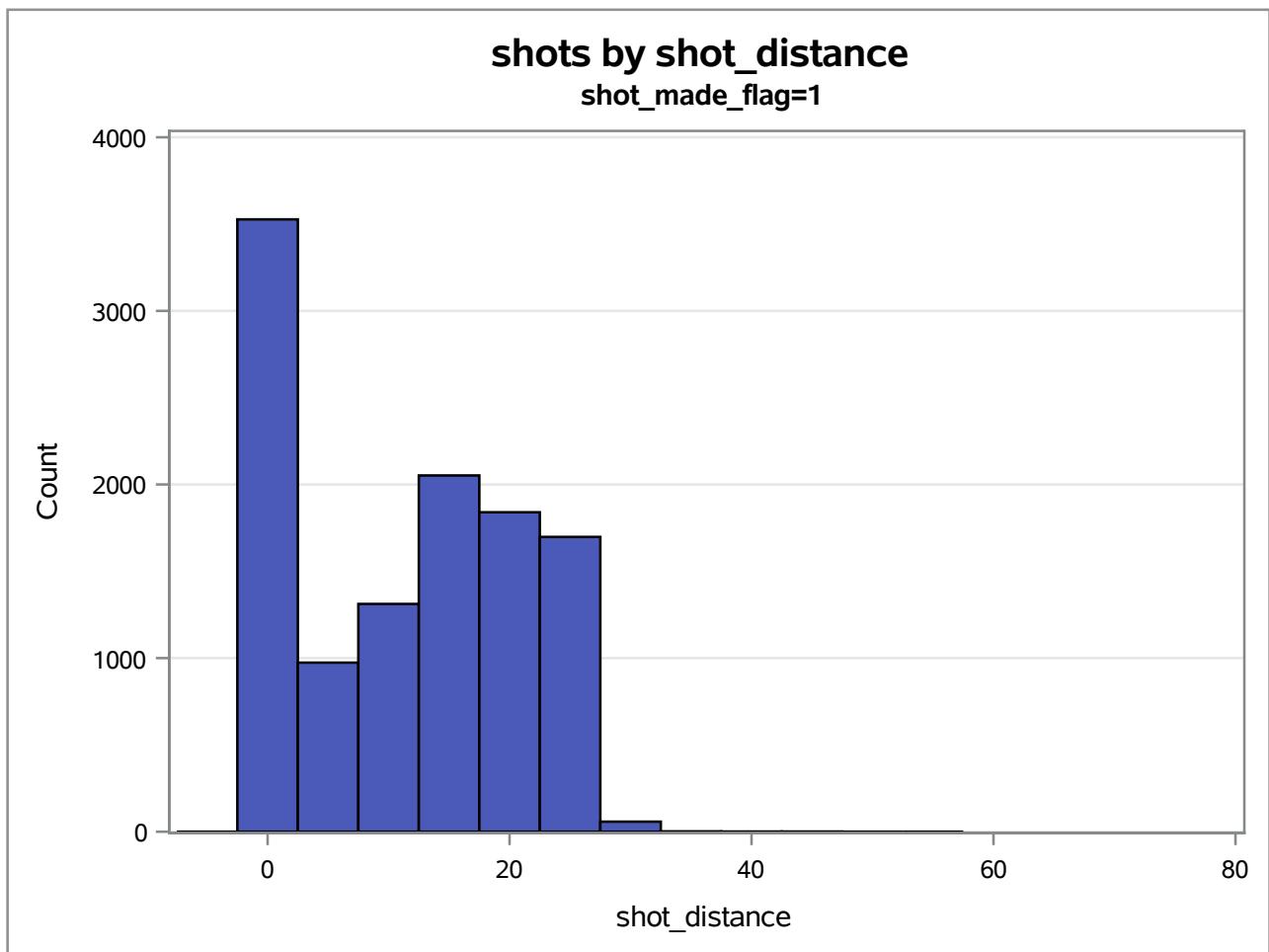
**Note:** Singularities or near singularities caused grossly large variance calculations. To provide diagnostics, eigenvalues are inflated to a minimum of 1e-12.

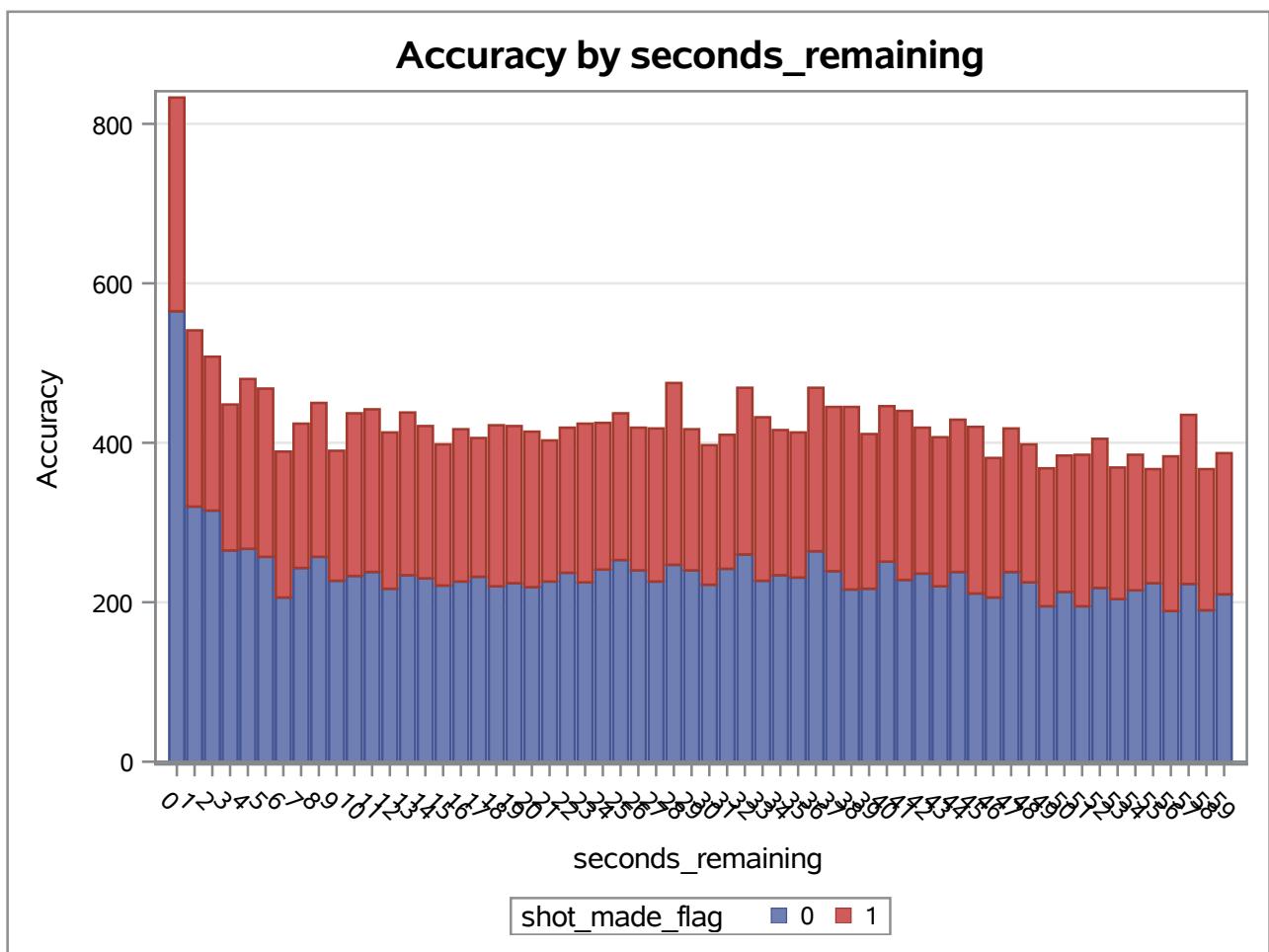












## The CONTENTS Procedure

<b>Data Set Name</b>	WORK.KOBE3	<b>Observations</b>	5000
<b>Member Type</b>	DATA	<b>Variables</b>	29
<b>Engine</b>	V9	<b>Indexes</b>	0
<b>Created</b>	06/04/2019 15:38:07	<b>Observation Length</b>	304
<b>Last Modified</b>	06/04/2019 15:38:07	<b>Deleted Observations</b>	0
<b>Protection</b>		<b>Compressed</b>	NO
<b>Data Set Type</b>		<b>Sorted</b>	NO
<b>Label</b>			
<b>Data Representation</b>	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
<b>Encoding</b>	utf-8 Unicode (UTF-8)		

## Engine/Host Dependent Information

<b>Data Set Page Size</b>	65536
<b>Number of Data Set Pages</b>	24
<b>First Data Page</b>	1
<b>Max Obs per Page</b>	215
<b>Obs in First Data Page</b>	195
<b>Number of Data Set Repairs</b>	0
<b>Filename</b>	/tmp/SAS_workEFCE00002FAF_localhost.localdomain/SAS_workE5CC00002FAF_localhost.localdomain/kobe3.sas7bdat
<b>Release Created</b>	9.0401M6
<b>Host Created</b>	Linux
<b>Inode Number</b>	542372
<b>Access Permission</b>	rw-rw-r--
<b>Owner Name</b>	sasdemo
<b>File Size</b>	2MB
<b>File Size (bytes)</b>	1638400

### The CONTENTS Procedure

Variables in Creation Order						
#	Variable	Type	Len	Format	Informat	Label
1	rannum	Num	8	BEST.		rannum
2	action_type	Char	34	\$34.	\$34.	action_type
3	combined_shot_type	Char	9	\$9.	\$9.	combined_shot_type
4	game_event_id	Num	8	BEST.		game_event_id
5	game_id	Num	8	BEST.		game_id
6	lat	Num	8	BEST.		lat
7	loc_x	Num	8	BEST.		loc_x
8	loc_y	Num	8	BEST.		loc_y
9	lon	Num	8	BEST.		lon
10	minutes_remaining	Num	8	BEST.		minutes_remaining
11	period	Num	8	BEST.		period
12	playoffs	Num	8	BEST.		playoffs
13	season	Char	7	\$7.	\$7.	season
14	seconds_remaining	Num	8	BEST.		seconds_remaining
15	shot_distance	Num	8	BEST.		shot_distance
16	shot_made_flag	Char	2	\$2.	\$2.	shot_made_flag
17	shot_type	Char	14	\$14.	\$14.	shot_type
18	shot_zone_area	Char	21	\$21.	\$21.	shot_zone_area
19	shot_zone_basic	Char	21	\$21.	\$21.	shot_zone_basic
20	shot_zone_range	Char	15	\$15.	\$15.	shot_zone_range
21	team_id	Num	8	BEST.		team_id
22	team_name	Char	18	\$18.	\$18.	team_name
23	game_date	Num	8	MMDDYY10.		game_date
24	matchup	Char	11	\$11.	\$11.	matchup
25	opponent	Char	3	\$3.	\$3.	opponent
26	shot_id	Num	8	BEST.		shot_id
27	attendance	Num	8	BEST.		attendance
28	arena_temp	Num	8	BEST.		arena_temp
29	avgnoisedb	Num	8	BEST.		avgnoisedb

Obs	rannum	action_type	combined_shot_type	game_event_id	game_id	lat	loc_x	loc_y	lon	minutes_remaining
1	10	Jump Shot	Jump Shot	10	20000012	33.9723	167	72	-118.1028	10
2	11	Jump Shot	Jump Shot	254	20000012	34.0163	1	28	-118.2688	8
3	31	Driving Layup Shot	Layup	100	20000019	34.0443	0	0	-118.2698	0
4	32	Driving Layup Shot	Layup	249	20000019	34.0443	0	0	-118.2698	10
5	45	Jump Shot	Jump Shot	4	20000047	33.9683	163	76	-118.1068	11
6	46	Jump Shot	Jump Shot	8	20000047	33.8503	70	194	-118.1998	10
7	47	Layup Shot	Layup	26	20000047	34.0253	1	19	-118.2688	7
8	48	Layup Shot	Layup	37	20000047	34.0293	-12	15	-118.2818	5

Obs	period	playoffs	season	seconds_remaining	shot_distance	shot_made_flag	shot_type	shot_zone_area	shot_zone_basic
1	1	0	2000-01	27	18	NA	2PT Field Goal	Right Side(R)	Mid-Range
2	3	0	2000-01	5	2	NA	2PT Field Goal	Center(C)	Restricted Area
3	1	0	2000-01	1	0	NA	2PT Field Goal	Center(C)	Restricted Area
4	3	0	2000-01	46	0	NA	2PT Field Goal	Center(C)	Restricted Area
5	1	0	2000-01	26	17	NA	2PT Field Goal	Right Side(R)	Mid-Range
6	1	0	2000-01	58	20	NA	2PT Field Goal	Right Side Center(RC)	Mid-Range
7	1	0	2000-01	33	1	NA	2PT Field Goal	Center(C)	Restricted Area
8	1	0	2000-01	58	1	NA	2PT Field Goal	Center(C)	Restricted Area

Obs	shot_zone_range	team_id	team_name	game_date	matchup	opponent	shot_id	attendance	arena_temp	avgnoidedb
1	16-24 ft.	1610612747	Los Angeles Lakers	10/31/2000	LAL @ POR	POR	1	14707	69	94.06
2	Less Than 8 ft.	1610612747	Los Angeles Lakers	10/31/2000	LAL @ POR	POR	8	14707	69	94.06
3	Less Than 8 ft.	1610612747	Los Angeles Lakers	11/01/2000	LAL vs. UTA	UTA	17	15851	69	95.71
4	Less Than 8 ft.	1610612747	Los Angeles Lakers	11/01/2000	LAL vs. UTA	UTA	20	15851	69	95.71
5	16-24 ft.	1610612747	Los Angeles Lakers	11/04/2000	LAL @ VAN	VAN	33	14081	72	95.09
6	16-24 ft.	1610612747	Los Angeles Lakers	11/04/2000	LAL @ VAN	VAN	34	14081	72	95.09
7	Less Than 8 ft.	1610612747	Los Angeles Lakers	11/04/2000	LAL @ VAN	VAN	35	14081	72	95.09
8	Less Than 8 ft.	1610612747	Los Angeles Lakers	11/04/2000	LAL @ VAN	VAN	36	14081	72	95.09

Obs	rannum	action_type	combined_shot_type	game_event_id	game_id	lat	loc_x	loc_y	lon	minutes_remaining
9	49	Reverse Layup Shot	Layup	53	20000047	34.0403	1	4	-118.2688	4
10	50	Jump Shot	Jump Shot	165	20000047	33.9283	-117	116	-118.3868	5

Obs	period	playoffs	season	seconds_remaining	shot_distance	shot_made_flag	shot_type	shot_zone_area	shot_zone_basic
9	1	0	2000-01	9	0	NA	2PT Field Goal	Center(C)	Restricted Area
10	2	0	2000-01	33	16	NA	2PT Field Goal	Left Side Center(LC)	Mid-Range

Obs	shot_zone_range	team_id	team_name	game_date	matchup	opponent	shot_id	attendance	arena_temp	avgnoisedb
9	Less Than 8 ft.	1610612747	Los Angeles Lakers	11/04/2000	LAL @ VAN	VAN	37	14081	72	95.09
10	16-24 ft.	1610612747	Los Angeles Lakers	11/04/2000	LAL @ VAN	VAN	38	14081	72	95.09

**The MEANS Procedure**

Analysis	
Variable : shot_made_flag	
Mean	Mode
0.4461610	0

**The LOGISTIC Procedure**

Model Information		
Data Set	WORK.KOBE1	
Response Variable	shot_made_flag	shot_made_flag
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	25697
Number of Observations Used	25697

Response Profile		
Ordered Value	shot_made_flag	Total Frequency
1	0	14232
2	1	11465

Probability modeled is shot\_made\_flag='1'.

**Forward Selection Procedure**

## The LOGISTIC Procedure

		Class Level Information																													
Class	Value	Design Variables																													
combined_shot_type	Bank Shot	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Dunk	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Hook Shot	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Jump Shot	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Layup	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Tip Shot	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
action_type	Alley Oop Dunk Shot	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Alley Oop Layup shot	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Cutting Layup Shot	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Bank shot	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Dunk Shot	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Finger Roll Layup Shot	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Finger Roll Shot	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Floating Bank Jump Shot	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Floating Jump Shot	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Hook Shot	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Jump shot	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Layup Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Reverse Layup Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Slam Dunk Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Dunk Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Fadeaway Bank shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	Fadeaway Jump Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Finger Roll Layup Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	Finger Roll Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Floating Jump shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

## The LOGISTIC Procedure



## The LOGISTIC Procedure

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
3904.4961	98	<.0001

## Step 1. Effect action\_type entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31530.878
SC	35335.237	31979.355
-2 Log L	35325.083	31420.878

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	3904.2052	54	<.0001
Score	3643.5588	54	<.0001
Wald	2715.6481	54	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
297.2271	44	<.0001

## Step 2. Effect shot\_zone\_range entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31434.644
SC	35335.237	31915.737
-2 Log L	35325.083	31316.644

## The LOGISTIC Procedure

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4008.4391	58	<.0001
Score	3719.9635	58	<.0001
Wald	2749.7762	58	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
211.4013	40	<.0001

## Step 3. Effect season entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31380.856
SC	35335.237	32016.878
-2 Log L	35325.083	31224.856

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4100.2271	77	<.0001
Score	3798.7182	77	<.0001
Wald	2811.1700	77	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
121.7619	21	<.0001

## Step 4. Effect shot\_zone\_area entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

## The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31352.622
SC	35335.237	32021.261
-2 Log L	35325.083	31188.622

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4136.4609	81	<.0001
Score	3830.9681	81	<.0001
Wald	2838.7193	81	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
86.2423	17	<.0001

## Step 5. Effect seconds\_remaining entered:

Model Convergence Status			
Convergence criterion (GCONV=1E-8) satisfied.			

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31335.322
SC	35335.237	32012.115
-2 Log L	35325.083	31169.322

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4155.7608	82	<.0001
Score	3847.4747	82	<.0001
Wald	2851.7732	82	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
66.9923	16	<.0001

## Step 6. Effect minutes\_remaining entered:

## The LOGISTIC Procedure

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31320.990
SC	35335.237	32005.937
-2 Log L	35325.083	31152.990

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4172.0928	83	<.0001
Score	3861.4600	83	<.0001
Wald	2862.7437	83	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
50.6832	15	<.0001

## Step 7. Effect period entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31306.430
SC	35335.237	32040.301
-2 Log L	35325.083	31126.430

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4198.6531	89	<.0001
Score	3883.8933	89	<.0001
Wald	2880.7276	89	<.0001

## The LOGISTIC Procedure

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
24.2288	9	0.0040

**Step 8. Effect shot\_zone\_basic entered:**

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31295.896
SC	35335.237	32070.539
-2 Log L	35325.083	31105.896

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4219.1865	94	<.0001
Score	3901.7294	94	<.0001
Wald	2893.2541	94	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
3.2970	4	0.5094

**Note:** No (additional) effects met the 0.05 significance level for entry into the model.

Summary of Forward Selection						
Step	Effect Entered	DF	Number In	Score Chi-Square	Pr > ChiSq	Variable Label
1	action_type	54	1	3643.5588	<.0001	action_type
2	shot_zone_range	4	2	86.1945	<.0001	shot_zone_range
3	season	19	3	90.2083	<.0001	season
4	shot_zone_area	4	4	36.1193	<.0001	shot_zone_area
5	seconds_remaining	1	5	19.2963	<.0001	seconds_remaining
6	minutes_remaining	1	6	16.3390	<.0001	minutes_remaining
7	period	6	7	26.4886	0.0002	period
8	shot_zone_basic	5	8	20.9409	0.0008	shot_zone_basic

## The LOGISTIC Procedure

Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq
action_type	54	2241.1211	<.0001
shot_zone_area	4	36.0784	<.0001
shot_zone_basic	5	20.5228	0.0010
period	6	26.5065	0.0002
season	19	95.4376	<.0001
shot_zone_range	2	41.8641	<.0001
minutes_remaining	1	13.9463	0.0002
seconds_remaining	1	19.1200	<.0001

## The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept		1	-0.1585	0.8316	0.0363	0.8489
action_type	Alley Oop Dunk Shot	1	2.4553	0.4813	26.0238	<.0001
action_type	Alley Oop Layup shot	1	0.4786	0.3064	2.4404	0.1182
action_type	Cutting Layup Shot	1	0.8279	0.8824	0.8804	0.3481
action_type	Driving Bank shot	1	0.3982	1.2326	0.1044	0.7467
action_type	Driving Dunk Shot	1	3.3331	0.4374	58.0582	<.0001
action_type	Driving Finger Roll Layup Shot	1	1.6381	0.4282	14.6314	0.0001
action_type	Driving Finger Roll Shot	1	1.3624	0.3683	13.6864	0.0002
action_type	Driving Floating Bank Jump Shot	1	13.4557	743.7	0.0003	0.9856
action_type	Driving Floating Jump Shot	1	-0.3828	1.2392	0.0954	0.7574
action_type	Driving Hook Shot	1	0.3812	0.5841	0.4258	0.5140
action_type	Driving Jump shot	1	-0.5009	0.4314	1.3486	0.2455
action_type	Driving Layup Shot	1	0.6650	0.1528	18.9407	<.0001
action_type	Driving Reverse Layup Shot	1	0.7917	0.2913	7.3849	0.0066
action_type	Driving Slam Dunk Shot	1	3.3779	1.0222	10.9189	0.0010
action_type	Dunk Shot	1	0.8426	0.2177	14.9840	0.0001
action_type	Fadeaway Bank shot	1	1.8617	0.6180	9.0748	0.0026
action_type	Fadeaway Jump Shot	1	-0.0795	0.0979	0.6591	0.4169
action_type	Finger Roll Layup Shot	1	1.1460	0.5104	5.0414	0.0247
action_type	Finger Roll Shot	1	-0.5332	0.4105	1.6875	0.1939
action_type	Floating Jump shot	1	0.7059	0.2450	8.2999	0.0040
action_type	Follow Up Dunk Shot	1	1.7992	1.0647	2.8556	0.0911
action_type	Hook Bank Shot	1	12.9661	332.3	0.0015	0.9689
action_type	Hook Shot	1	-0.8100	0.2571	9.9214	0.0016
action_type	Jump Bank Shot	1	0.9632	0.1587	36.8544	<.0001
action_type	Jump Hook Shot	1	0.8480	0.5299	2.5606	0.1096
action_type	Jump Shot	1	-1.1999	0.0732	268.9828	<.0001
action_type	Layup Shot	1	-0.8686	0.1497	33.6641	<.0001
action_type	Pullup Bank shot	1	0.000638	0.6140	0.0000	0.9992
action_type	Pullup Jump shot	1	0.6592	0.1347	23.9489	<.0001
action_type	Putback Dunk Shot	1	0.2591	1.2335	0.0441	0.8336
action_type	Putback Layup Shot	1	0.3255	0.7231	0.2026	0.6527
action_type	Putback Slam Dunk Shot	1	-0.5196	1.4226	0.1334	0.7149
action_type	Reverse Dunk Shot	1	1.9842	0.4887	16.4838	<.0001
action_type	Reverse Layup Shot	1	0.1417	0.1830	0.5989	0.4390
action_type	Reverse Slam Dunk Shot	1	12.8988	191.6	0.0045	0.9463
action_type	Running Bank shot	1	1.3750	0.4208	10.6799	0.0011
action_type	Running Dunk Shot	1	1.7440	0.7659	5.1851	0.0228

## The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
action_type	Running Finger Roll Layup Shot	1	0.1466	0.9315	0.0248	0.8749
action_type	Running Finger Roll Shot	1	-1.4886	1.1599	1.6471	0.1994
action_type	Running Hook Shot	1	1.7436	0.5403	10.4120	0.0013
action_type	Running Jump Shot	1	0.7354	0.1106	44.2322	<.0001
action_type	Running Layup Shot	1	0.5168	0.3371	2.3501	0.1253
action_type	Running Pull-Up Jump Shot	1	0.6584	1.2296	0.2867	0.5923
action_type	Running Reverse Layup Shot	1	-0.00106	0.7795	0.0000	0.9989
action_type	Running Slam Dunk Shot	1	13.1363	743.7	0.0003	0.9859
action_type	Running Tip Shot	1	-13.8426	742.7	0.0003	0.9851
action_type	Slam Dunk Shot	1	3.6028	0.4367	68.0535	<.0001
action_type	Step Back Jump shot	1	0.2215	0.2161	1.0508	0.3053
action_type	Tip Layup Shot	1	0.0911	1.4237	0.0041	0.9490
action_type	Tip Shot	1	-1.0210	0.2238	20.8106	<.0001
action_type	Turnaround Bank shot	1	1.1027	0.3330	10.9638	0.0009
action_type	Turnaround Fadeaway shot	1	0.0708	0.1287	0.3029	0.5821
action_type	Turnaround Finger Roll Shot	1	12.7000	525.9	0.0006	0.9807
action_type	Turnaround Hook Shot	1	-0.1589	0.7156	0.0493	0.8243
action_type	Turnaround Jump Shot	0	0	.	.	.
shot_zone_area	Back Court(BC)	1	-12.5577	208.8	0.0036	0.9520
shot_zone_area	Center(C)	1	0.2071	0.0577	12.9008	0.0003
shot_zone_area	Left Side Center(LC)	1	0.1468	0.0627	5.4880	0.0191
shot_zone_area	Left Side(L)	1	-0.0967	0.0546	3.1357	0.0766
shot_zone_area	Right Side Center(RC)	1	0.2394	0.0601	15.8743	<.0001
shot_zone_area	Right Side(R)	0	0	.	.	.
shot_zone_basic	Above the Break 3	1	-0.2757	0.1321	4.3558	0.0369
shot_zone_basic	Backcourt	1	9.0711	208.8	0.0019	0.9653
shot_zone_basic	In The Paint (Non-RA)	1	-0.5911	0.1424	17.2226	<.0001
shot_zone_basic	Left Corner 3	1	0.2416	0.1868	1.6728	0.1959
shot_zone_basic	Mid-Range	1	-0.6827	0.1474	21.4520	<.0001
shot_zone_basic	Restricted Area	1	-0.3868	0.1824	4.4941	0.0340
shot_zone_basic	Right Corner 3	0	0	.	.	.
period	1	1	0.0879	0.8173	0.0116	0.9144
period	2	1	0.0437	0.8173	0.0029	0.9573
period	3	1	0.0155	0.8173	0.0004	0.9849
period	4	1	-0.1057	0.8173	0.0167	0.8971
period	5	1	-0.0629	0.8272	0.0058	0.9394
period	6	1	-0.0441	0.9149	0.0023	0.9615
period	7	0	0	.	.	.

## The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
<b>season</b>	<b>1996-97</b>	1	0.5629	0.1364	17.0246	<.0001
<b>season</b>	<b>1997-98</b>	1	0.3879	0.1123	11.9360	0.0006
<b>season</b>	<b>1998-99</b>	1	0.6827	0.1114	37.5251	<.0001
<b>season</b>	<b>1999-00</b>	1	0.6480	0.0991	42.7138	<.0001
<b>season</b>	<b>2000-01</b>	1	0.6495	0.0958	46.0082	<.0001
<b>season</b>	<b>2001-02</b>	1	0.5772	0.0943	37.4420	<.0001
<b>season</b>	<b>2002-03</b>	1	0.5561	0.0929	35.8272	<.0001
<b>season</b>	<b>2003-04</b>	1	0.4728	0.0977	23.4239	<.0001
<b>season</b>	<b>2004-05</b>	1	0.5248	0.1013	26.8452	<.0001
<b>season</b>	<b>2005-06</b>	1	0.6973	0.0914	58.1882	<.0001
<b>season</b>	<b>2006-07</b>	1	0.6635	0.0944	49.4212	<.0001
<b>season</b>	<b>2007-08</b>	1	0.6031	0.0921	42.8437	<.0001
<b>season</b>	<b>2008-09</b>	1	0.5979	0.0918	42.4445	<.0001
<b>season</b>	<b>2009-10</b>	1	0.5177	0.0920	31.6834	<.0001
<b>season</b>	<b>2010-11</b>	1	0.5086	0.0945	28.9388	<.0001
<b>season</b>	<b>2011-12</b>	1	0.4531	0.0957	22.4060	<.0001
<b>season</b>	<b>2012-13</b>	1	0.4538	0.0968	21.9680	<.0001
<b>season</b>	<b>2013-14</b>	1	0.3417	0.2923	1.3671	0.2423
<b>season</b>	<b>2014-15</b>	1	0.2279	0.1186	3.6927	0.0546
<b>season</b>	<b>2015-16</b>	0	0	.	.	.
<b>shot_zone_range</b>	<b>16-24 ft.</b>	1	0.5610	0.0884	40.2298	<.0001
<b>shot_zone_range</b>	<b>24+ ft.</b>	0	0	.	.	.
<b>shot_zone_range</b>	<b>8-16 ft.</b>	1	0.4365	0.0748	34.0693	<.0001
<b>shot_zone_range</b>	<b>Back Court Shot</b>	0	0	.	.	.
<b>shot_zone_range</b>	<b>Less Than 8 ft.</b>	0	0	.	.	.
<b>minutes_remaining</b>		1	0.0151	0.00405	13.9463	0.0002
<b>seconds_remaining</b>		1	0.00342	0.000782	19.1200	<.0001

## The LOGISTIC Procedure

Odds Ratio Estimates					
Effect			Point Estimate	95% Wald Confidence Limits	
action_type	Alley Oop Dunk Shot	vs Turnaround Jump Shot	11.650	4.536	29.925
action_type	Alley Oop Layup shot	vs Turnaround Jump Shot	1.614	0.885	2.942
action_type	Cutting Layup Shot	vs Turnaround Jump Shot	2.289	0.406	12.902
action_type	Driving Bank shot	vs Turnaround Jump Shot	1.489	0.133	16.678
action_type	Driving Dunk Shot	vs Turnaround Jump Shot	28.024	11.890	66.050
action_type	Driving Finger Roll Layup Shot	vs Turnaround Jump Shot	5.145	2.223	11.910
action_type	Driving Finger Roll Shot	vs Turnaround Jump Shot	3.905	1.898	8.038
action_type	Driving Floating Bank Jump Shot	vs Turnaround Jump Shot	>999.999	<0.001	>999.999
action_type	Driving Floating Jump Shot	vs Turnaround Jump Shot	0.682	0.060	7.737
action_type	Driving Hook Shot	vs Turnaround Jump Shot	1.464	0.466	4.600
action_type	Driving Jump shot	vs Turnaround Jump Shot	0.606	0.260	1.411
action_type	Driving Layup Shot	vs Turnaround Jump Shot	1.944	1.441	2.623
action_type	Driving Reverse Layup Shot	vs Turnaround Jump Shot	2.207	1.247	3.907
action_type	Driving Slam Dunk Shot	vs Turnaround Jump Shot	29.308	3.952	217.327
action_type	Dunk Shot	vs Turnaround Jump Shot	2.322	1.516	3.558
action_type	Fadeaway Bank shot	vs Turnaround Jump Shot	6.435	1.916	21.606
action_type	Fadeaway Jump Shot	vs Turnaround Jump Shot	0.924	0.762	1.119
action_type	Finger Roll Layup Shot	vs Turnaround Jump Shot	3.146	1.157	8.554
action_type	Finger Roll Shot	vs Turnaround Jump Shot	0.587	0.262	1.312
action_type	Floating Jump shot	vs Turnaround Jump Shot	2.026	1.253	3.274
action_type	Follow Up Dunk Shot	vs Turnaround Jump Shot	6.045	0.750	48.718
action_type	Hook Bank Shot	vs Turnaround Jump Shot	>999.999	<0.001	>999.999
action_type	Hook Shot	vs Turnaround Jump Shot	0.445	0.269	0.736
action_type	Jump Bank Shot	vs Turnaround Jump Shot	2.620	1.920	3.576
action_type	Jump Hook Shot	vs Turnaround Jump Shot	2.335	0.826	6.597
action_type	Jump Shot	vs Turnaround Jump Shot	0.301	0.261	0.348
action_type	Layup Shot	vs Turnaround Jump Shot	0.420	0.313	0.563
action_type	Pullup Bank shot	vs Turnaround Jump Shot	1.001	0.300	3.333
action_type	Pullup Jump shot	vs Turnaround Jump Shot	1.933	1.485	2.517
action_type	Putback Dunk Shot	vs Turnaround Jump Shot	1.296	0.115	14.539
action_type	Putback Layup Shot	vs Turnaround Jump Shot	1.385	0.336	5.713
action_type	Putback Slam Dunk Shot	vs Turnaround Jump Shot	0.595	0.037	9.667
action_type	Reverse Dunk Shot	vs Turnaround Jump Shot	7.273	2.791	18.954
action_type	Reverse Layup Shot	vs Turnaround Jump Shot	1.152	0.805	1.649
action_type	Reverse Slam Dunk Shot	vs Turnaround Jump Shot	>999.999	<0.001	>999.999
action_type	Running Bank shot	vs Turnaround Jump Shot	3.955	1.734	9.022
action_type	Running Dunk Shot	vs Turnaround Jump Shot	5.720	1.275	25.664
action_type	Running Finger Roll Layup Shot	vs Turnaround Jump Shot	1.158	0.187	7.188

## The LOGISTIC Procedure

Odds Ratio Estimates				
Effect			Point Estimate	95% Wald Confidence Limits
action_type	Running Finger Roll Shot	vs Turnaround Jump Shot	0.226	0.023 2.192
action_type	Running Hook Shot	vs Turnaround Jump Shot	5.718	1.983 16.488
action_type	Running Jump Shot	vs Turnaround Jump Shot	2.086	1.680 2.591
action_type	Running Layup Shot	vs Turnaround Jump Shot	1.677	0.866 3.246
action_type	Running Pull-Up Jump Shot	vs Turnaround Jump Shot	1.932	0.173 21.507
action_type	Running Reverse Layup Shot	vs Turnaround Jump Shot	0.999	0.217 4.603
action_type	Running Slam Dunk Shot	vs Turnaround Jump Shot	>999.999	<0.001 >999.999
action_type	Running Tip Shot	vs Turnaround Jump Shot	<0.001	<0.001 >999.999
action_type	Slam Dunk Shot	vs Turnaround Jump Shot	36.702	15.593 86.385
action_type	Step Back Jump shot	vs Turnaround Jump Shot	1.248	0.817 1.906
action_type	Tip Layup Shot	vs Turnaround Jump Shot	1.095	0.067 17.841
action_type	Tip Shot	vs Turnaround Jump Shot	0.360	0.232 0.559
action_type	Turnaround Bank shot	vs Turnaround Jump Shot	3.012	1.568 5.786
action_type	Turnaround Fadeaway shot	vs Turnaround Jump Shot	1.073	0.834 1.381
action_type	Turnaround Finger Roll Shot	vs Turnaround Jump Shot	>999.999	<0.001 >999.999
action_type	Turnaround Hook Shot	vs Turnaround Jump Shot	0.853	0.210 3.468
shot_zone_area	Back Court(BC)	vs Right Side(R)	<0.001	<0.001 >999.999
shot_zone_area	Center(C)	vs Right Side(R)	1.230	1.099 1.377
shot_zone_area	Left Side Center(LC)	vs Right Side(R)	1.158	1.024 1.309
shot_zone_area	Left Side(L)	vs Right Side(R)	0.908	0.816 1.010
shot_zone_area	Right Side Center(RC)	vs Right Side(R)	1.271	1.129 1.429
shot_zone_basic	Above the Break 3	vs Right Corner 3	0.759	0.586 0.983
shot_zone_basic	Backcourt	vs Right Corner 3	>999.999	<0.001 >999.999
shot_zone_basic	In The Paint (Non-RA)	vs Right Corner 3	0.554	0.419 0.732
shot_zone_basic	Left Corner 3	vs Right Corner 3	1.273	0.883 1.836
shot_zone_basic	Mid-Range	vs Right Corner 3	0.505	0.378 0.674
shot_zone_basic	Restricted Area	vs Right Corner 3	0.679	0.475 0.971
period	1 vs 7		1.092	0.220 5.418
period	2 vs 7		1.045	0.211 5.184
period	3 vs 7		1.016	0.205 5.039
period	4 vs 7		0.900	0.181 4.465
period	5 vs 7		0.939	0.186 4.751
period	6 vs 7		0.957	0.159 5.750
season	1996-97 vs 2015-16		1.756	1.344 2.294
season	1997-98 vs 2015-16		1.474	1.183 1.837
season	1998-99 vs 2015-16		1.979	1.591 2.462
season	1999-00 vs 2015-16		1.912	1.574 2.322
season	2000-01 vs 2015-16		1.915	1.587 2.310

## The LOGISTIC Procedure

Odds Ratio Estimates			
Effect		Point Estimate	95% Wald Confidence Limits
season	2001-02 vs 2015-16	1.781	1.480 2.143
season	2002-03 vs 2015-16	1.744	1.454 2.092
season	2003-04 vs 2015-16	1.605	1.325 1.943
season	2004-05 vs 2015-16	1.690	1.386 2.061
season	2005-06 vs 2015-16	2.008	1.679 2.402
season	2006-07 vs 2015-16	1.941	1.614 2.336
season	2007-08 vs 2015-16	1.828	1.526 2.190
season	2008-09 vs 2015-16	1.818	1.519 2.177
season	2009-10 vs 2015-16	1.678	1.401 2.010
season	2010-11 vs 2015-16	1.663	1.382 2.001
season	2011-12 vs 2015-16	1.573	1.304 1.898
season	2012-13 vs 2015-16	1.574	1.302 1.903
season	2013-14 vs 2015-16	1.407	0.794 2.496
season	2014-15 vs 2015-16	1.256	0.995 1.585
shot_zone_range	16-24 ft. vs Less Than 8 ft.	1.752	1.473 2.084
shot_zone_range	8-16 ft. vs Less Than 8 ft.	1.547	1.336 1.792
minutes_remaining		1.015	1.007 1.023
seconds_remaining		1.003	1.002 1.005

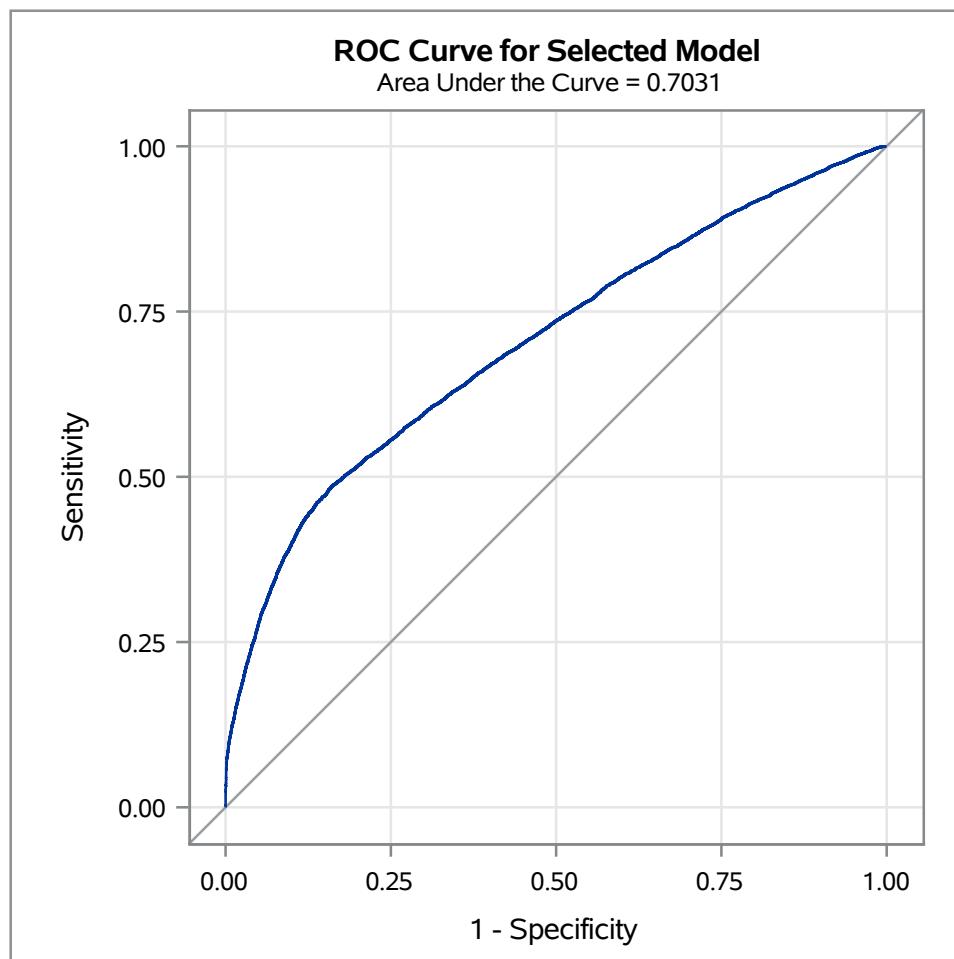
## Odds Ratios with 95% Wald Confidence Limits

action\_type Alley Oop Layup shot vs Turnaround Jump Shot  
 action\_type Driving Finger Roll Layup Shot vs Turnaround Jump Shot  
     action\_type Driving Hook Shot vs Turnaround Jump Shot  
 action\_type Driving Slam Dunk Shot vs Turnaround Jump Shot  
 action\_type Finger Roll Layup Shot vs Turnaround Jump Shot  
     action\_type Hook Bank Shot vs Turnaround Jump Shot  
     action\_type Jump Shot vs Turnaround Jump Shot  
 action\_type Putback Dunk Shot vs Turnaround Jump Shot  
 action\_type Reverse Layup Shot vs Turnaround Jump Shot  
 action\_type Running Finger Roll Layup Shot vs Turnaround Jump Shot  
     action\_type Running Layup Shot vs Turnaround Jump Shot  
     action\_type Running Tip Shot vs Turnaround Jump Shot  
     action\_type Tip Shot vs Turnaround Jump Shot  
 action\_type Turnaround Hook Shot vs Turnaround Jump Shot  
     shot\_zone\_area Left Side(L) vs Right Side(R)  
 shot\_zone\_basic In The Paint (Non-RA) vs Right Corner 3  
     period 1 vs 7  
     period 5 vs 7  
     season 1998-99 vs 2015-16  
     season 2002-03 vs 2015-16  
     season 2006-07 vs 2015-16  
     season 2010-11 vs 2015-16  
     season 2014-15 vs 2015-16  
     seconds\_remaining



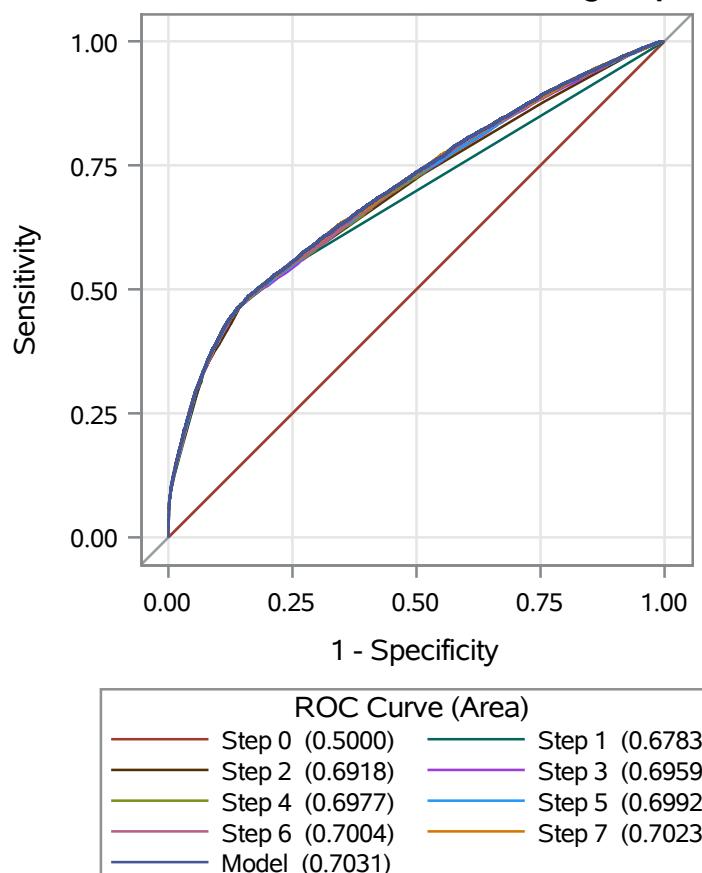
## The LOGISTIC Procedure

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	70.3	Somers' D	0.406
Percent Discordant	29.7	Gamma	0.406
Percent Tied	0.0	Tau-a	0.201
Pairs	163169880	c	0.703



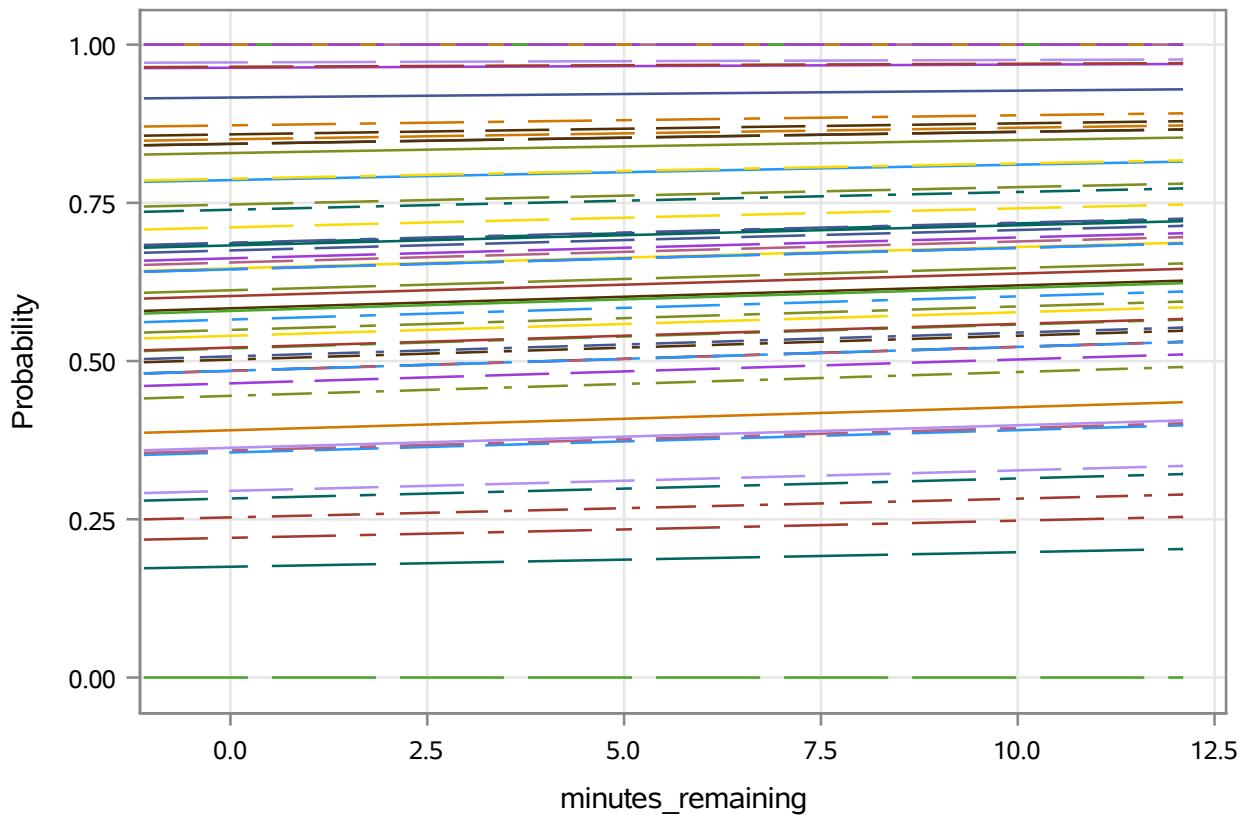
## The LOGISTIC Procedure

## ROC Curves for All Model Building Steps



## Predicted Probabilities for shot\_made\_flag=1

At shot\_zone\_area=Right Side(R) shot\_zone\_basic=Right Corner 3 period=7 shot\_zone\_range=Less Than 8 ft. season=2015-16 seconds\_remaining=28.31



## The LOGISTIC Procedure

Fit Statistics for SCORE Data											
Data Set	Total Frequency	Log Likelihood	Error Rate	AIC	AICC	BIC	SC	R-Square	Max-Rescaled R-Square	AUC	Brier Score
WORK.KOBE1	25697	-15552.9	0.3171	31295.9	31296.61	32070.54	32070.54	0.151419	0.202682	0.70308	0.209513

## Training of the model

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Obs	recid	action_type	combined_shot_type	game_event_id	game_id	lat	loc_x	loc_y	lon
1	2	Jump Shot	Jump Shot	35	20000012	33.9093	-101	135	-118.3708
2	3	Jump Shot	Jump Shot	43	20000012	33.8693	138	175	-118.1318
3	12	Jump Shot	Jump Shot	4	20000019	33.9173	121	127	-118.1488
4	16	Jump Shot	Jump Shot	86	20000019	33.8523	62	192	-118.2078
5	18	Jump Shot	Jump Shot	244	20000019	33.9473	-132	97	-118.4018
6	20	Jump Shot	Jump Shot	265	20000019	33.9173	134	127	-118.1358
7	22	Running Jump Shot	Jump Shot	299	20000019	33.8943	-109	150	-118.3788
8	25	Jump Shot	Jump Shot	345	20000019	33.8483	-58	196	-118.3278

Obs	minutes_remaining	period	playoffs	season	seconds_remaining	shot_distance	shot_made_flag	shot_type
1	7	1	0	2000-01	45	16	1	2PT Field Goal
2	6	1	0	2000-01	52	22	0	2PT Field Goal
3	11	1	0	2000-01	0	17	1	2PT Field Goal
4	0	1	0	2000-01	48	20	0	2PT Field Goal
5	11	3	0	2000-01	29	16	0	2PT Field Goal
6	9	3	0	2000-01	4	18	0	2PT Field Goal
7	5	3	0	2000-01	47	18	1	2PT Field Goal
8	2	3	0	2000-01	4	20	0	2PT Field Goal

Obs	shot_zone_area	shot_zone_basic	shot_zone_range	team_id	team_name	game_date	matchup	opponent
1	Left Side Center(LC)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36830	LAL @ POR	POR
2	Right Side Center(RC)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36830	LAL @ POR	POR
3	Right Side Center(RC)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA
4	Center(C)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA
5	Left Side Center(LC)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA
6	Right Side Center(RC)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA
7	Left Side Center(LC)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA
8	Center(C)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA

Obs	shot_id	attendance	arena_temp	avgnoisedb	F_shot_made_flag	I_shot_made_flag	P_0	P_1
1	3	14707	69	94.06	1	0	0.58326	0.41674
2	4	14707	69	94.06	0	0	0.55842	0.44158
3	12	15851	69	95.71	1	0	0.58344	0.41656
4	16	15851	69	95.71	0	0	0.59182	0.40818
5	19	15851	69	95.71	0	0	0.59936	0.40064
6	22	15851	69	95.71	0	0	0.60489	0.39511
7	24	15851	69	95.71	1	1	0.18194	0.81806
8	27	15851	69	95.71	0	0	0.63740	0.36260

## Training of the model

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Obs	recid	action_type	combined_shot_type	game_event_id	game_id	lat	loc_x	loc_y	lon
9	27	Jump Shot	Jump Shot	400	20000019	33.8713	85	173	-118.1848
10	33	Jump Shot	Jump Shot	184	20000047	33.8603	91	184	-118.1788

Obs	minutes_remaining	period	playoffs	season	seconds_remaining	shot_distance	shot_made_flag	shot_type
9	8	4	0	2000-01	19	19	0	2PT Field Goal
10	3	2	0	2000-01	30	20	1	2PT Field Goal

Obs	shot_zone_area	shot_zone_basic	shot_zone_range	team_id	team_name	game_date	matchup	opponent
9	Right Side Center(RC)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36831	LAL vs. UTA	UTA
10	Right Side Center(RC)	Mid-Range	16-24 ft.	1610612747	Los Angeles Lakers	36834	LAL @ VAN	VAN

Obs	shot_id	attendance	arena_temp	avgnoisedb	F_shot_made_flag	I_shot_made_flag	P_0	P_1
9	29	15851	69	95.71	0	0	0.62502	0.37498
10	39	14081	72	95.09	1	0	0.59857	0.40143

**The LOGISTIC Procedure**

Model Information		
Data Set	WORK.KOBE1	
Response Variable	shot_made_flag	shot_made_flag
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	25697
Number of Observations Used	25697

Response Profile		
Ordered Value	shot_made_flag	Total Frequency
1	0	14232
2	1	11465

Probability modeled is shot\_made\_flag='1'.

**Forward Selection Procedure**

## The LOGISTIC Procedure

		Class Level Information																								
Class	Value	Design Variables																								
combined_shot_type	Bank Shot	1	0	0	0	0	0	0																		
	Dunk	0	1	0	0	0	0	0																		
	Hook Shot	0	0	1	0	0	0	0																		
	Jump Shot	0	0	0	1	0	0	0																		
	Layup	0	0	0	0	1	0	0																		
	Tip Shot	0	0	0	0	0	1	0																		
action_type	Alley Oop Dunk Shot	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Alley Oop Layup shot	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Cutting Layup Shot	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Bank shot	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Dunk Shot	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Finger Roll Layup Shot	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Finger Roll Shot	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Floating Bank Jump Shot	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Floating Jump Shot	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Hook Shot	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Jump shot	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Layup Shot	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Driving Reverse Layup Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Driving Slam Dunk Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Dunk Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Fadeaway Bank shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	Fadeaway Jump Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Finger Roll Layup Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Finger Roll Shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Floating Jump shot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0



## The LOGISTIC Procedure



## The LOGISTIC Procedure

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
3904.4961	98	<.0001

## Step 1. Effect action\_type entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31530.878
SC	35335.237	31979.355
-2 Log L	35325.083	31420.878

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	3904.2052	54	<.0001
Score	3643.5588	54	<.0001
Wald	2715.6481	54	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
297.2271	44	<.0001

## Step 2. Effect shot\_zone\_range entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31434.644
SC	35335.237	31915.737
-2 Log L	35325.083	31316.644

## The LOGISTIC Procedure

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4008.4391	58	<.0001
Score	3719.9635	58	<.0001
Wald	2749.7762	58	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
211.4013	40	<.0001

## Step 3. Effect season entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31380.856
SC	35335.237	32016.878
-2 Log L	35325.083	31224.856

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4100.2271	77	<.0001
Score	3798.7182	77	<.0001
Wald	2811.1700	77	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
121.7619	21	<.0001

## Step 4. Effect shot\_zone\_area entered:

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

## The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31352.622
SC	35335.237	32021.261
-2 Log L	35325.083	31188.622

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4136.4609	81	<.0001
Score	3830.9681	81	<.0001
Wald	2838.7193	81	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
86.2423	17	<.0001

## Step 5. Effect seconds\_remaining entered:

Model Convergence Status			
Convergence criterion (GCONV=1E-8) satisfied.			

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31335.322
SC	35335.237	32012.115
-2 Log L	35325.083	31169.322

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4155.7608	82	<.0001
Score	3847.4747	82	<.0001
Wald	2851.7732	82	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
66.9923	16	<.0001

## Step 6. Effect minutes\_remaining entered:

**The LOGISTIC Procedure**

Model Convergence Status	
Convergence criterion (GCONV=1E-8) satisfied.	

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31320.990
SC	35335.237	32005.937
-2 Log L	35325.083	31152.990

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4172.0928	83	<.0001
Score	3861.4600	83	<.0001
Wald	2862.7437	83	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
50.6832	15	<.0001

**Step 7. Effect period entered:**

Model Convergence Status	
Convergence criterion (GCONV=1E-8) satisfied.	

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31306.430
SC	35335.237	32040.301
-2 Log L	35325.083	31126.430

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4198.6531	89	<.0001
Score	3883.8933	89	<.0001
Wald	2880.7276	89	<.0001

## The LOGISTIC Procedure

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
24.2288	9	0.0040

**Step 8. Effect shot\_zone\_basic entered:**

Model Convergence Status		
Convergence criterion (GCONV=1E-8) satisfied.		

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	35327.083	31295.896
SC	35335.237	32070.539
-2 Log L	35325.083	31105.896

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	4219.1865	94	<.0001
Score	3901.7294	94	<.0001
Wald	2893.2541	94	<.0001

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
3.2970	4	0.5094

**Note:** No (additional) effects met the 0.05 significance level for entry into the model.

Summary of Forward Selection						
Step	Effect Entered	DF	Number In	Score Chi-Square	Pr > ChiSq	Variable Label
1	action_type	54	1	3643.5588	<.0001	action_type
2	shot_zone_range	4	2	86.1945	<.0001	shot_zone_range
3	season	19	3	90.2083	<.0001	season
4	shot_zone_area	4	4	36.1193	<.0001	shot_zone_area
5	seconds_remaining	1	5	19.2963	<.0001	seconds_remaining
6	minutes_remaining	1	6	16.3390	<.0001	minutes_remaining
7	period	6	7	26.4886	0.0002	period
8	shot_zone_basic	5	8	20.9409	0.0008	shot_zone_basic

## The LOGISTIC Procedure

Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq
action_type	54	2241.1211	<.0001
shot_zone_area	4	36.0784	<.0001
shot_zone_basic	5	20.5228	0.0010
period	6	26.5065	0.0002
season	19	95.4376	<.0001
shot_zone_range	2	41.8641	<.0001
minutes_remaining	1	13.9463	0.0002
seconds_remaining	1	19.1200	<.0001

## The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept		1	-0.1585	0.8316	0.0363	0.8489
action_type	Alley Oop Dunk Shot	1	2.4553	0.4813	26.0238	<.0001
action_type	Alley Oop Layup shot	1	0.4786	0.3064	2.4404	0.1182
action_type	Cutting Layup Shot	1	0.8279	0.8824	0.8804	0.3481
action_type	Driving Bank shot	1	0.3982	1.2326	0.1044	0.7467
action_type	Driving Dunk Shot	1	3.3331	0.4374	58.0582	<.0001
action_type	Driving Finger Roll Layup Shot	1	1.6381	0.4282	14.6314	0.0001
action_type	Driving Finger Roll Shot	1	1.3624	0.3683	13.6864	0.0002
action_type	Driving Floating Bank Jump Shot	1	13.4557	743.7	0.0003	0.9856
action_type	Driving Floating Jump Shot	1	-0.3828	1.2392	0.0954	0.7574
action_type	Driving Hook Shot	1	0.3812	0.5841	0.4258	0.5140
action_type	Driving Jump shot	1	-0.5009	0.4314	1.3486	0.2455
action_type	Driving Layup Shot	1	0.6650	0.1528	18.9407	<.0001
action_type	Driving Reverse Layup Shot	1	0.7917	0.2913	7.3849	0.0066
action_type	Driving Slam Dunk Shot	1	3.3779	1.0222	10.9189	0.0010
action_type	Dunk Shot	1	0.8426	0.2177	14.9840	0.0001
action_type	Fadeaway Bank shot	1	1.8617	0.6180	9.0748	0.0026
action_type	Fadeaway Jump Shot	1	-0.0795	0.0979	0.6591	0.4169
action_type	Finger Roll Layup Shot	1	1.1460	0.5104	5.0414	0.0247
action_type	Finger Roll Shot	1	-0.5332	0.4105	1.6875	0.1939
action_type	Floating Jump shot	1	0.7059	0.2450	8.2999	0.0040
action_type	Follow Up Dunk Shot	1	1.7992	1.0647	2.8556	0.0911
action_type	Hook Bank Shot	1	12.9661	332.3	0.0015	0.9689
action_type	Hook Shot	1	-0.8100	0.2571	9.9214	0.0016
action_type	Jump Bank Shot	1	0.9632	0.1587	36.8544	<.0001
action_type	Jump Hook Shot	1	0.8480	0.5299	2.5606	0.1096
action_type	Jump Shot	1	-1.1999	0.0732	268.9828	<.0001
action_type	Layup Shot	1	-0.8686	0.1497	33.6641	<.0001
action_type	Pullup Bank shot	1	0.000638	0.6140	0.0000	0.9992
action_type	Pullup Jump shot	1	0.6592	0.1347	23.9489	<.0001
action_type	Putback Dunk Shot	1	0.2591	1.2335	0.0441	0.8336
action_type	Putback Layup Shot	1	0.3255	0.7231	0.2026	0.6527
action_type	Putback Slam Dunk Shot	1	-0.5196	1.4226	0.1334	0.7149
action_type	Reverse Dunk Shot	1	1.9842	0.4887	16.4838	<.0001
action_type	Reverse Layup Shot	1	0.1417	0.1830	0.5989	0.4390
action_type	Reverse Slam Dunk Shot	1	12.8988	191.6	0.0045	0.9463
action_type	Running Bank shot	1	1.3750	0.4208	10.6799	0.0011
action_type	Running Dunk Shot	1	1.7440	0.7659	5.1851	0.0228

## The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
action_type	Running Finger Roll Layup Shot	1	0.1466	0.9315	0.0248	0.8749
action_type	Running Finger Roll Shot	1	-1.4886	1.1599	1.6471	0.1994
action_type	Running Hook Shot	1	1.7436	0.5403	10.4120	0.0013
action_type	Running Jump Shot	1	0.7354	0.1106	44.2322	<.0001
action_type	Running Layup Shot	1	0.5168	0.3371	2.3501	0.1253
action_type	Running Pull-Up Jump Shot	1	0.6584	1.2296	0.2867	0.5923
action_type	Running Reverse Layup Shot	1	-0.00106	0.7795	0.0000	0.9989
action_type	Running Slam Dunk Shot	1	13.1363	743.7	0.0003	0.9859
action_type	Running Tip Shot	1	-13.8426	742.7	0.0003	0.9851
action_type	Slam Dunk Shot	1	3.6028	0.4367	68.0535	<.0001
action_type	Step Back Jump shot	1	0.2215	0.2161	1.0508	0.3053
action_type	Tip Layup Shot	1	0.0911	1.4237	0.0041	0.9490
action_type	Tip Shot	1	-1.0210	0.2238	20.8106	<.0001
action_type	Turnaround Bank shot	1	1.1027	0.3330	10.9638	0.0009
action_type	Turnaround Fadeaway shot	1	0.0708	0.1287	0.3029	0.5821
action_type	Turnaround Finger Roll Shot	1	12.7000	525.9	0.0006	0.9807
action_type	Turnaround Hook Shot	1	-0.1589	0.7156	0.0493	0.8243
action_type	Turnaround Jump Shot	0	0	.	.	.
shot_zone_area	Back Court(BC)	1	-12.5577	208.8	0.0036	0.9520
shot_zone_area	Center(C)	1	0.2071	0.0577	12.9008	0.0003
shot_zone_area	Left Side Center(LC)	1	0.1468	0.0627	5.4880	0.0191
shot_zone_area	Left Side(L)	1	-0.0967	0.0546	3.1357	0.0766
shot_zone_area	Right Side Center(RC)	1	0.2394	0.0601	15.8743	<.0001
shot_zone_area	Right Side(R)	0	0	.	.	.
shot_zone_basic	Above the Break 3	1	-0.2757	0.1321	4.3558	0.0369
shot_zone_basic	Backcourt	1	9.0711	208.8	0.0019	0.9653
shot_zone_basic	In The Paint (Non-RA)	1	-0.5911	0.1424	17.2226	<.0001
shot_zone_basic	Left Corner 3	1	0.2416	0.1868	1.6728	0.1959
shot_zone_basic	Mid-Range	1	-0.6827	0.1474	21.4520	<.0001
shot_zone_basic	Restricted Area	1	-0.3868	0.1824	4.4941	0.0340
shot_zone_basic	Right Corner 3	0	0	.	.	.
period	1	1	0.0879	0.8173	0.0116	0.9144
period	2	1	0.0437	0.8173	0.0029	0.9573
period	3	1	0.0155	0.8173	0.0004	0.9849
period	4	1	-0.1057	0.8173	0.0167	0.8971
period	5	1	-0.0629	0.8272	0.0058	0.9394
period	6	1	-0.0441	0.9149	0.0023	0.9615
period	7	0	0	.	.	.

## The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
<b>season</b>	<b>1996-97</b>	1	0.5629	0.1364	17.0246	<.0001
<b>season</b>	<b>1997-98</b>	1	0.3879	0.1123	11.9360	0.0006
<b>season</b>	<b>1998-99</b>	1	0.6827	0.1114	37.5251	<.0001
<b>season</b>	<b>1999-00</b>	1	0.6480	0.0991	42.7138	<.0001
<b>season</b>	<b>2000-01</b>	1	0.6495	0.0958	46.0082	<.0001
<b>season</b>	<b>2001-02</b>	1	0.5772	0.0943	37.4420	<.0001
<b>season</b>	<b>2002-03</b>	1	0.5561	0.0929	35.8272	<.0001
<b>season</b>	<b>2003-04</b>	1	0.4728	0.0977	23.4239	<.0001
<b>season</b>	<b>2004-05</b>	1	0.5248	0.1013	26.8452	<.0001
<b>season</b>	<b>2005-06</b>	1	0.6973	0.0914	58.1882	<.0001
<b>season</b>	<b>2006-07</b>	1	0.6635	0.0944	49.4212	<.0001
<b>season</b>	<b>2007-08</b>	1	0.6031	0.0921	42.8437	<.0001
<b>season</b>	<b>2008-09</b>	1	0.5979	0.0918	42.4445	<.0001
<b>season</b>	<b>2009-10</b>	1	0.5177	0.0920	31.6834	<.0001
<b>season</b>	<b>2010-11</b>	1	0.5086	0.0945	28.9388	<.0001
<b>season</b>	<b>2011-12</b>	1	0.4531	0.0957	22.4060	<.0001
<b>season</b>	<b>2012-13</b>	1	0.4538	0.0968	21.9680	<.0001
<b>season</b>	<b>2013-14</b>	1	0.3417	0.2923	1.3671	0.2423
<b>season</b>	<b>2014-15</b>	1	0.2279	0.1186	3.6927	0.0546
<b>season</b>	<b>2015-16</b>	0	0	.	.	.
<b>shot_zone_range</b>	<b>16-24 ft.</b>	1	0.5610	0.0884	40.2298	<.0001
<b>shot_zone_range</b>	<b>24+ ft.</b>	0	0	.	.	.
<b>shot_zone_range</b>	<b>8-16 ft.</b>	1	0.4365	0.0748	34.0693	<.0001
<b>shot_zone_range</b>	<b>Back Court Shot</b>	0	0	.	.	.
<b>shot_zone_range</b>	<b>Less Than 8 ft.</b>	0	0	.	.	.
<b>minutes_remaining</b>		1	0.0151	0.00405	13.9463	0.0002
<b>seconds_remaining</b>		1	0.00342	0.000782	19.1200	<.0001

## The LOGISTIC Procedure

Odds Ratio Estimates					
Effect			Point Estimate	95% Wald Confidence Limits	
action_type	Alley Oop Dunk Shot	vs Turnaround Jump Shot	11.650	4.536	29.925
action_type	Alley Oop Layup shot	vs Turnaround Jump Shot	1.614	0.885	2.942
action_type	Cutting Layup Shot	vs Turnaround Jump Shot	2.289	0.406	12.902
action_type	Driving Bank shot	vs Turnaround Jump Shot	1.489	0.133	16.678
action_type	Driving Dunk Shot	vs Turnaround Jump Shot	28.024	11.890	66.050
action_type	Driving Finger Roll Layup Shot	vs Turnaround Jump Shot	5.145	2.223	11.910
action_type	Driving Finger Roll Shot	vs Turnaround Jump Shot	3.905	1.898	8.038
action_type	Driving Floating Bank Jump Shot	vs Turnaround Jump Shot	>999.999	<0.001	>999.999
action_type	Driving Floating Jump Shot	vs Turnaround Jump Shot	0.682	0.060	7.737
action_type	Driving Hook Shot	vs Turnaround Jump Shot	1.464	0.466	4.600
action_type	Driving Jump shot	vs Turnaround Jump Shot	0.606	0.260	1.411
action_type	Driving Layup Shot	vs Turnaround Jump Shot	1.944	1.441	2.623
action_type	Driving Reverse Layup Shot	vs Turnaround Jump Shot	2.207	1.247	3.907
action_type	Driving Slam Dunk Shot	vs Turnaround Jump Shot	29.308	3.952	217.327
action_type	Dunk Shot	vs Turnaround Jump Shot	2.322	1.516	3.558
action_type	Fadeaway Bank shot	vs Turnaround Jump Shot	6.435	1.916	21.606
action_type	Fadeaway Jump Shot	vs Turnaround Jump Shot	0.924	0.762	1.119
action_type	Finger Roll Layup Shot	vs Turnaround Jump Shot	3.146	1.157	8.554
action_type	Finger Roll Shot	vs Turnaround Jump Shot	0.587	0.262	1.312
action_type	Floating Jump shot	vs Turnaround Jump Shot	2.026	1.253	3.274
action_type	Follow Up Dunk Shot	vs Turnaround Jump Shot	6.045	0.750	48.718
action_type	Hook Bank Shot	vs Turnaround Jump Shot	>999.999	<0.001	>999.999
action_type	Hook Shot	vs Turnaround Jump Shot	0.445	0.269	0.736
action_type	Jump Bank Shot	vs Turnaround Jump Shot	2.620	1.920	3.576
action_type	Jump Hook Shot	vs Turnaround Jump Shot	2.335	0.826	6.597
action_type	Jump Shot	vs Turnaround Jump Shot	0.301	0.261	0.348
action_type	Layup Shot	vs Turnaround Jump Shot	0.420	0.313	0.563
action_type	Pullup Bank shot	vs Turnaround Jump Shot	1.001	0.300	3.333
action_type	Pullup Jump shot	vs Turnaround Jump Shot	1.933	1.485	2.517
action_type	Putback Dunk Shot	vs Turnaround Jump Shot	1.296	0.115	14.539
action_type	Putback Layup Shot	vs Turnaround Jump Shot	1.385	0.336	5.713
action_type	Putback Slam Dunk Shot	vs Turnaround Jump Shot	0.595	0.037	9.667
action_type	Reverse Dunk Shot	vs Turnaround Jump Shot	7.273	2.791	18.954
action_type	Reverse Layup Shot	vs Turnaround Jump Shot	1.152	0.805	1.649
action_type	Reverse Slam Dunk Shot	vs Turnaround Jump Shot	>999.999	<0.001	>999.999
action_type	Running Bank shot	vs Turnaround Jump Shot	3.955	1.734	9.022
action_type	Running Dunk Shot	vs Turnaround Jump Shot	5.720	1.275	25.664
action_type	Running Finger Roll Layup Shot	vs Turnaround Jump Shot	1.158	0.187	7.188

## The LOGISTIC Procedure

Odds Ratio Estimates				
Effect			Point Estimate	95% Wald Confidence Limits
action_type	Running Finger Roll Shot	vs Turnaround Jump Shot	0.226	0.023 2.192
action_type	Running Hook Shot	vs Turnaround Jump Shot	5.718	1.983 16.488
action_type	Running Jump Shot	vs Turnaround Jump Shot	2.086	1.680 2.591
action_type	Running Layup Shot	vs Turnaround Jump Shot	1.677	0.866 3.246
action_type	Running Pull-Up Jump Shot	vs Turnaround Jump Shot	1.932	0.173 21.507
action_type	Running Reverse Layup Shot	vs Turnaround Jump Shot	0.999	0.217 4.603
action_type	Running Slam Dunk Shot	vs Turnaround Jump Shot	>999.999	<0.001 >999.999
action_type	Running Tip Shot	vs Turnaround Jump Shot	<0.001	<0.001 >999.999
action_type	Slam Dunk Shot	vs Turnaround Jump Shot	36.702	15.593 86.385
action_type	Step Back Jump shot	vs Turnaround Jump Shot	1.248	0.817 1.906
action_type	Tip Layup Shot	vs Turnaround Jump Shot	1.095	0.067 17.841
action_type	Tip Shot	vs Turnaround Jump Shot	0.360	0.232 0.559
action_type	Turnaround Bank shot	vs Turnaround Jump Shot	3.012	1.568 5.786
action_type	Turnaround Fadeaway shot	vs Turnaround Jump Shot	1.073	0.834 1.381
action_type	Turnaround Finger Roll Shot	vs Turnaround Jump Shot	>999.999	<0.001 >999.999
action_type	Turnaround Hook Shot	vs Turnaround Jump Shot	0.853	0.210 3.468
shot_zone_area	Back Court(BC)	vs Right Side(R)	<0.001	<0.001 >999.999
shot_zone_area	Center(C)	vs Right Side(R)	1.230	1.099 1.377
shot_zone_area	Left Side Center(LC)	vs Right Side(R)	1.158	1.024 1.309
shot_zone_area	Left Side(L)	vs Right Side(R)	0.908	0.816 1.010
shot_zone_area	Right Side Center(RC)	vs Right Side(R)	1.271	1.129 1.429
shot_zone_basic	Above the Break 3	vs Right Corner 3	0.759	0.586 0.983
shot_zone_basic	Backcourt	vs Right Corner 3	>999.999	<0.001 >999.999
shot_zone_basic	In The Paint (Non-RA)	vs Right Corner 3	0.554	0.419 0.732
shot_zone_basic	Left Corner 3	vs Right Corner 3	1.273	0.883 1.836
shot_zone_basic	Mid-Range	vs Right Corner 3	0.505	0.378 0.674
shot_zone_basic	Restricted Area	vs Right Corner 3	0.679	0.475 0.971
period	1 vs 7		1.092	0.220 5.418
period	2 vs 7		1.045	0.211 5.184
period	3 vs 7		1.016	0.205 5.039
period	4 vs 7		0.900	0.181 4.465
period	5 vs 7		0.939	0.186 4.751
period	6 vs 7		0.957	0.159 5.750
season	1996-97 vs 2015-16		1.756	1.344 2.294
season	1997-98 vs 2015-16		1.474	1.183 1.837
season	1998-99 vs 2015-16		1.979	1.591 2.462
season	1999-00 vs 2015-16		1.912	1.574 2.322
season	2000-01 vs 2015-16		1.915	1.587 2.310

## The LOGISTIC Procedure

Odds Ratio Estimates			
Effect		Point Estimate	95% Wald Confidence Limits
season	2001-02 vs 2015-16	1.781	1.480 2.143
season	2002-03 vs 2015-16	1.744	1.454 2.092
season	2003-04 vs 2015-16	1.605	1.325 1.943
season	2004-05 vs 2015-16	1.690	1.386 2.061
season	2005-06 vs 2015-16	2.008	1.679 2.402
season	2006-07 vs 2015-16	1.941	1.614 2.336
season	2007-08 vs 2015-16	1.828	1.526 2.190
season	2008-09 vs 2015-16	1.818	1.519 2.177
season	2009-10 vs 2015-16	1.678	1.401 2.010
season	2010-11 vs 2015-16	1.663	1.382 2.001
season	2011-12 vs 2015-16	1.573	1.304 1.898
season	2012-13 vs 2015-16	1.574	1.302 1.903
season	2013-14 vs 2015-16	1.407	0.794 2.496
season	2014-15 vs 2015-16	1.256	0.995 1.585
shot_zone_range	16-24 ft. vs Less Than 8 ft.	1.752	1.473 2.084
shot_zone_range	8-16 ft. vs Less Than 8 ft.	1.547	1.336 1.792
minutes_remaining		1.015	1.007 1.023
seconds_remaining		1.003	1.002 1.005

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	70.3	Somers' D	0.406
Percent Discordant	29.7	Gamma	0.406
Percent Tied	0.0	Tau-a	0.201
Pairs	163169880	c	0.703

## Test the accuracy of the model

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Obs	shot_id	Info: shot_made_flag	Predicted Probability: shot_made_flag=1
1	1	0	0.37774
2	8	0	0.32410
3	17	1	0.74415
4	20	1	0.78589
5	33	0	0.38050
6	34	0	0.46164
7	35	0	0.43765
8	36	0	0.45129
9	37	1	0.65298
10	38	0	0.38898
11	45	0	0.40561
12	50	0	0.28441
13	55	0	0.37964
14	60	0	0.34936
15	66	0	0.36207
16	67	0	0.30848
17	71	0	0.35074
18	80	0	0.29636
19	85	0	0.33075
20	86	1	0.60607
21	95	1	0.60697
22	104	0	0.36514
23	113	0	0.34469
24	123	0	0.32814
25	126	1	0.83269
26	133	1	0.66601
27	141	0	0.23751
28	144	0	0.40548
29	150	1	0.76646
30	152	0	0.38428
31	153	1	0.75780
32	156	0	0.35963
33	159	1	0.92673
34	165	1	0.77439
35	172	0	0.40973
36	182	1	0.95156
37	192	0	0.36126
38	193	1	0.76166
39	196	0	0.30883

## Test the accuracy of the model

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Obs	shot_id	Into: shot_made_flag	Predicted Probability: shot_made_flag=1
40	202	0	0.32224
41	210	0	0.30940
42	211	0	0.35110
43	228	1	0.97524
44	257	0	0.41646
45	260	0	0.40795
46	264	0	0.40660
47	267	1	0.56218
48	279	1	0.95204
49	282	0	0.40437
50	293	0	0.38285

## The FREQ Procedure

Frequency  
Percent  
Row Pct  
Col Pct

Table of F_shot_made_flag by I_shot_made_flag			
F_shot_made_flag(From: shot_made_flag)	I_shot_made_flag(Into: shot_made_flag)		
	0	1	Total
0	12267 47.74 86.19 66.48	1965 7.65 13.81 27.12	14232 55.38
1	6184 24.07 53.94 33.52	5281 20.55 46.06 72.88	11465 44.62
Total	18451 71.80	7246 28.20	25697 100.00