The MEANS Procedure

Variable	Mean
Afarm	6999.36
Bfarm	7683.66
Cfarm	7909.71

The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
farm	3	Andrews Bailey Carter

Number of Observations Read	300
Number of Observations Used	300

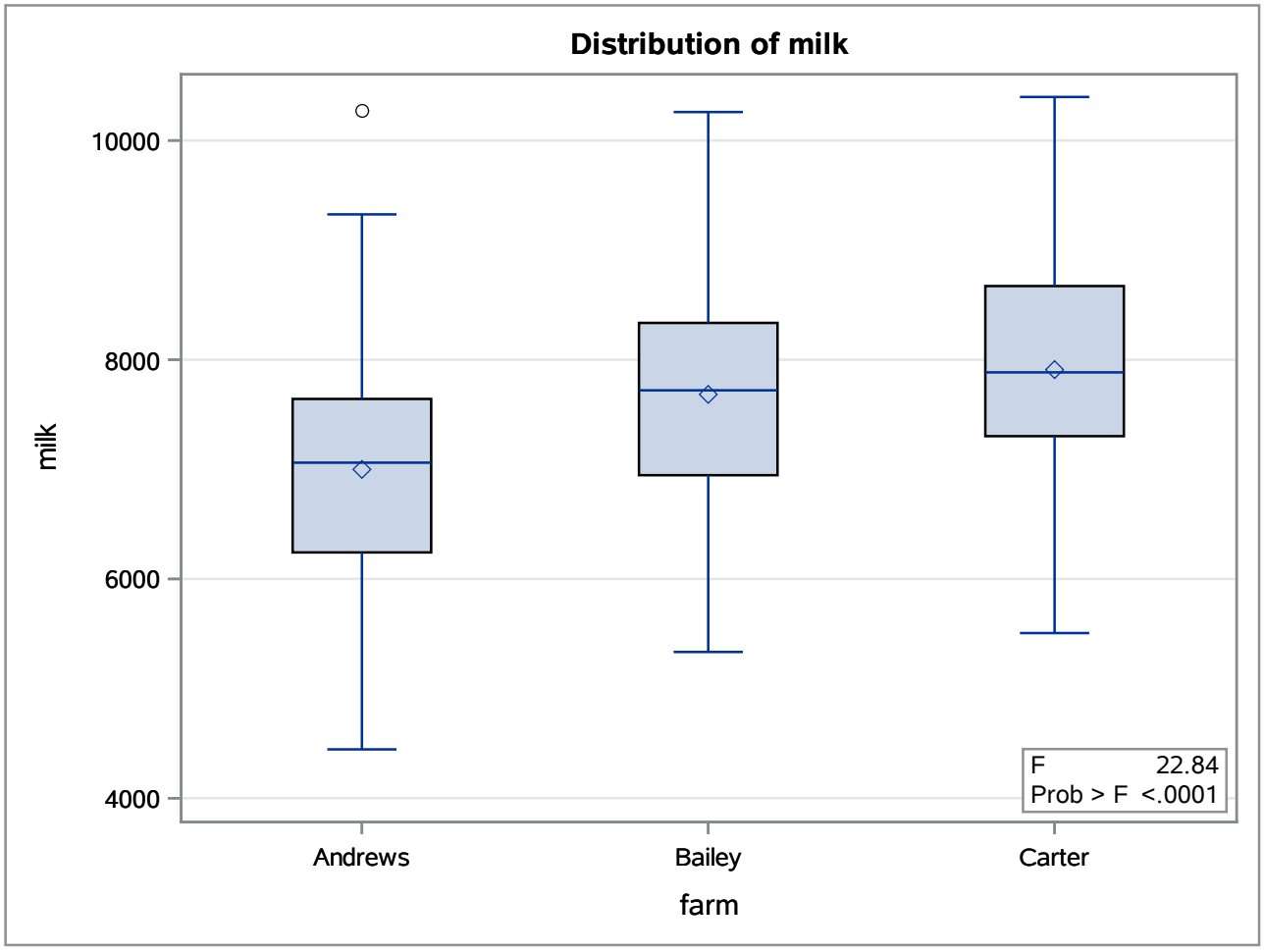
The ANOVA Procedure

Dependent Variable: milk

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	44936638.8	22468319.4	22.84	<.0001
Error	297	292179684.2	983770.0		
Corrected Total	299	337116323.0			

R-Square	Coeff Var	Root MSE	milk Mean
0.133297	13.17041	991.8518	7530.910

Source	DF	Anova SS	Mean Square	F Value	Pr > F
farm	2	44936638.79	22468319.40	22.84	<.0001



The GLM Procedure

Class Level Information		
Class	**Levels**	**Values**
farm	3	Andrews Bailey Carter

Number of Observations Read	300
Number of Observations Used	300

The GLM Procedure

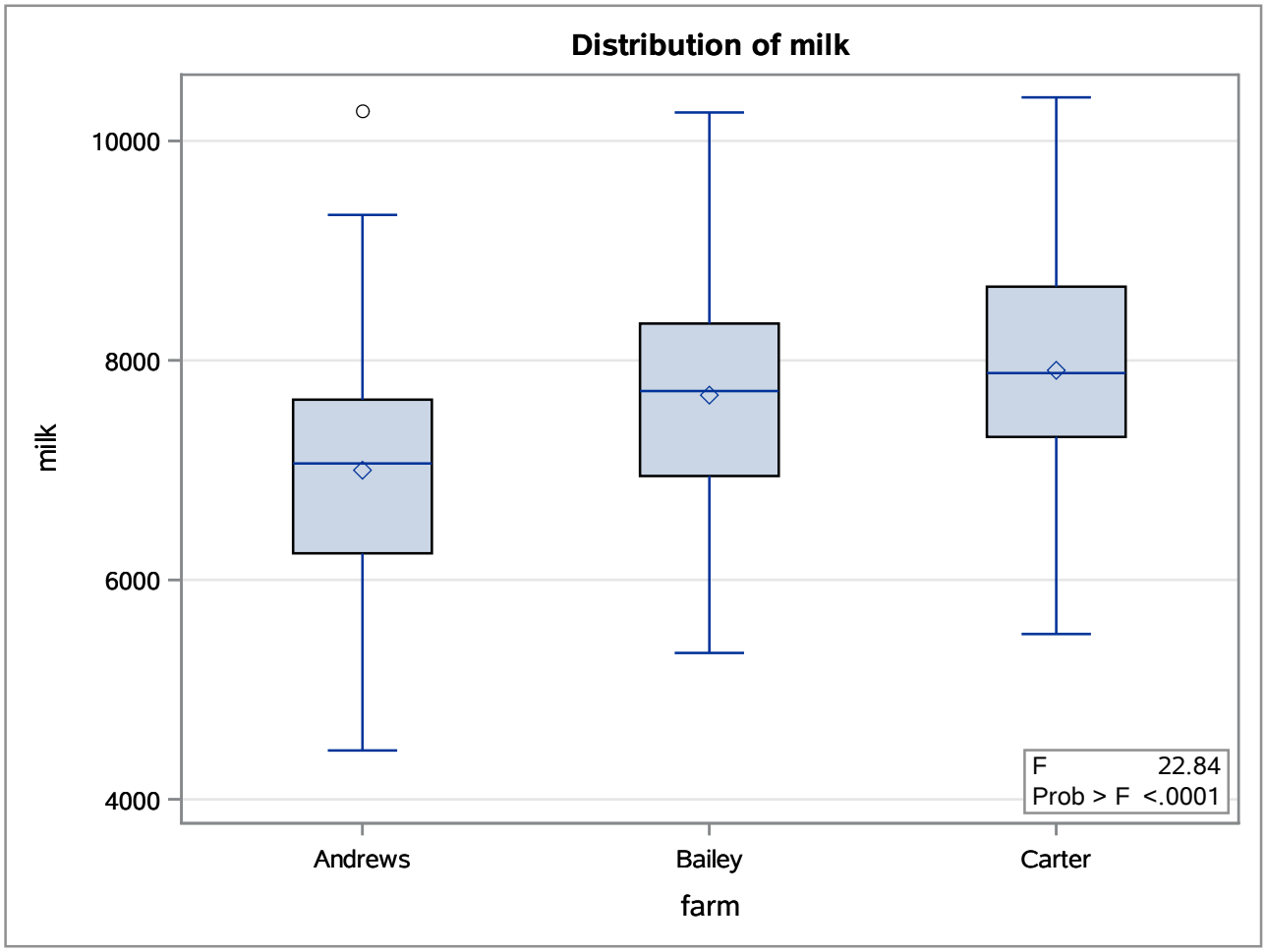
Dependent Variable: milk

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	44936638.8	22468319.4	22.84	<.0001
Error	297	292179684.2	983770.0		
Corrected Total	299	337116323.0			

R-Square	Coeff Var	Root MSE	milk Mean
0.133297	13.17041	991.8518	7530.910

Source	DF	Type I SS	Mean Square	F Value	Pr > F
farm	2	44936638.79	22468319.40	22.84	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
farm	2	44936638.79	22468319.40	22.84	<.0001



The UNIVARIATE Procedure
Variable: i

Moments			
N	1000	**Sum Weights**	1000
Mean	500.5	**Sum Observations**	500500
Std Deviation	288.819436	**Variance**	83416.6667
Skewness	0	**Kurtosis**	-1.2
Uncorrected SS	333833500	**Corrected SS**	83333250
Coeff Variation	57.706181	**Std Error Mean**	9.13327251

Basic Statistical Measures			
Location		**Variability**	
Mean	500.5000	**Std Deviation**	288.81944
Median	500.5000	**Variance**	83417
Mode	.	**Range**	999.00000
		Interquartile Range	500.00000

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	54.79964	**Pr > |t|**	<.0001
Sign	**M**	500	**Pr >= |M|**	<.0001
Signed Rank	**S**	250250	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	1000.0
99%	990.5
95%	950.5
90%	900.5
75% Q3	750.5
50% Median	500.5
25% Q1	250.5
10%	100.5
5%	50.5
1%	10.5
0% Min	1.0

The UNIVARIATE Procedure
Variable: i

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
1	1	996	996
2	2	997	997
3	3	998	998
4	4	999	999
5	5	1000	1000

The UNIVARIATE Procedure
Variable: x1

Moments			
N	1000	**Sum Weights**	1000
Mean	0.49771572	**Sum Observations**	497.715718
Std Deviation	0.29140022	**Variance**	0.08491409
Skewness	0.02814439	**Kurtosis**	-1.1867866
Uncorrected SS	332.550113	**Corrected SS**	84.8291766
Coeff Variation	58.5475229	**Std Error Mean**	0.00921488

Basic Statistical Measures			
Location		**Variability**	
Mean	0.497716	**Std Deviation**	0.29140
Median	0.491302	**Variance**	0.08491
Mode	.	**Range**	0.99898
		Interquartile Range	0.50065

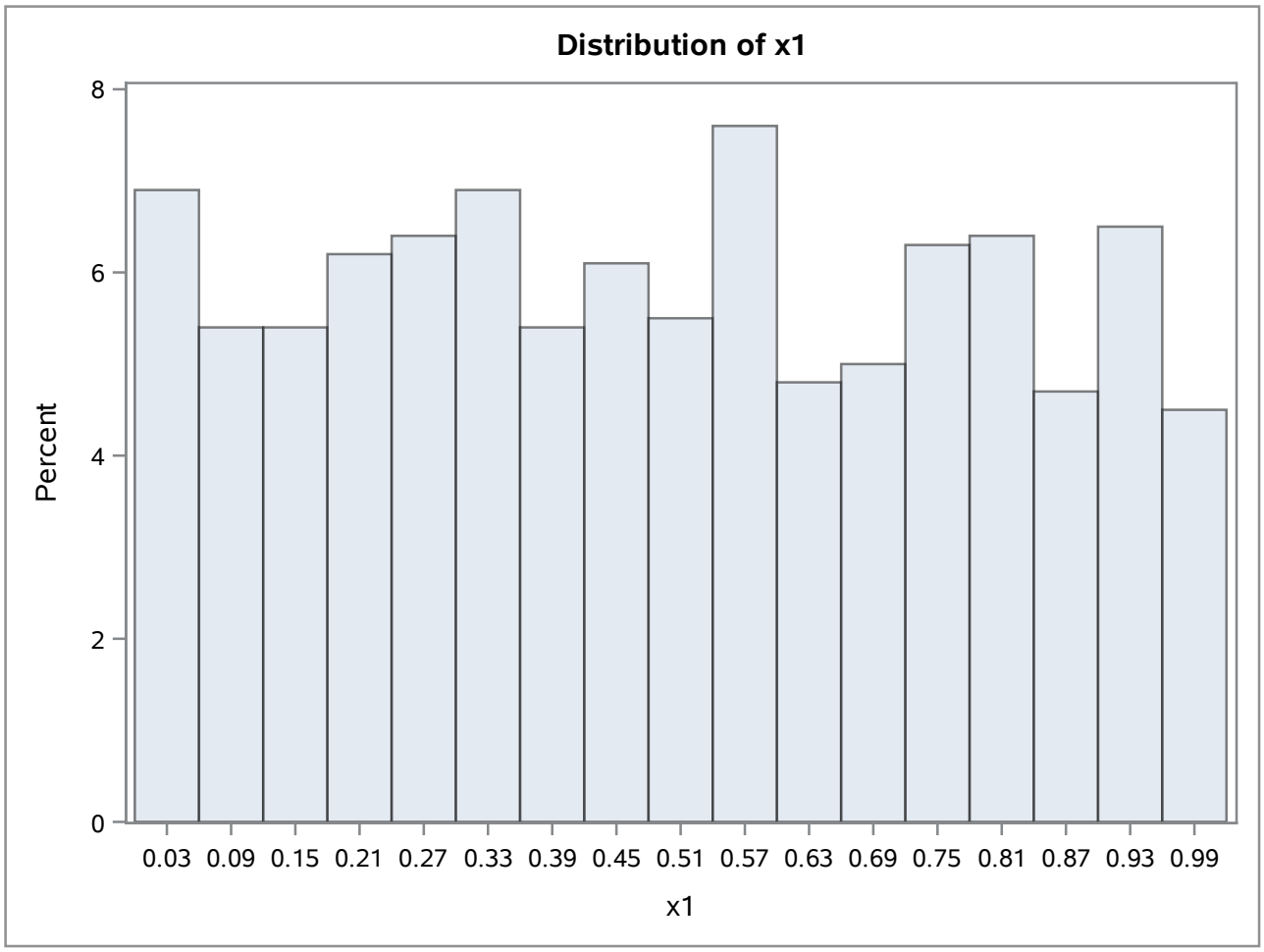
Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	54.01215	**Pr > |t|**	<.0001
Sign	**M**	500	**Pr >= |M|**	<.0001
Signed Rank	**S**	250250	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	0.999477837
99%	0.992517911
95%	0.955291928
90%	0.908554663
75% Q3	0.755835464
50% Median	0.491302323
25% Q1	0.255183429
10%	0.086531033
5%	0.044985343
1%	0.008307807
0% Min	0.000494724

The UNIVARIATE Procedure
Variable: x1

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0.000494724	828	0.996426	760
0.001378515	520	0.997883	687
0.002927703	732	0.998446	48
0.003269936	428	0.999214	158
0.006201511	86	0.999478	959

The UNIVARIATE Procedure



The UNIVARIATE Procedure
Variable: x2

Moments			
N	1000	**Sum Weights**	1000
Mean	65.5352582	**Sum Observations**	65535.2582
Std Deviation	20.1339301	**Variance**	405.375141
Skewness	-0.0542508	**Kurtosis**	-1.1802816
Uncorrected SS	4699839.83	**Corrected SS**	404969.765
Coeff Variation	30.722287	**Std Error Mean**	0.63669077

Basic Statistical Measures			
Location		**Variability**	
Mean	65.53526	**Std Deviation**	20.13393
Median	66.22523	**Variance**	405.37514
Mode	.	**Range**	69.89568
		Interquartile Range	34.38882

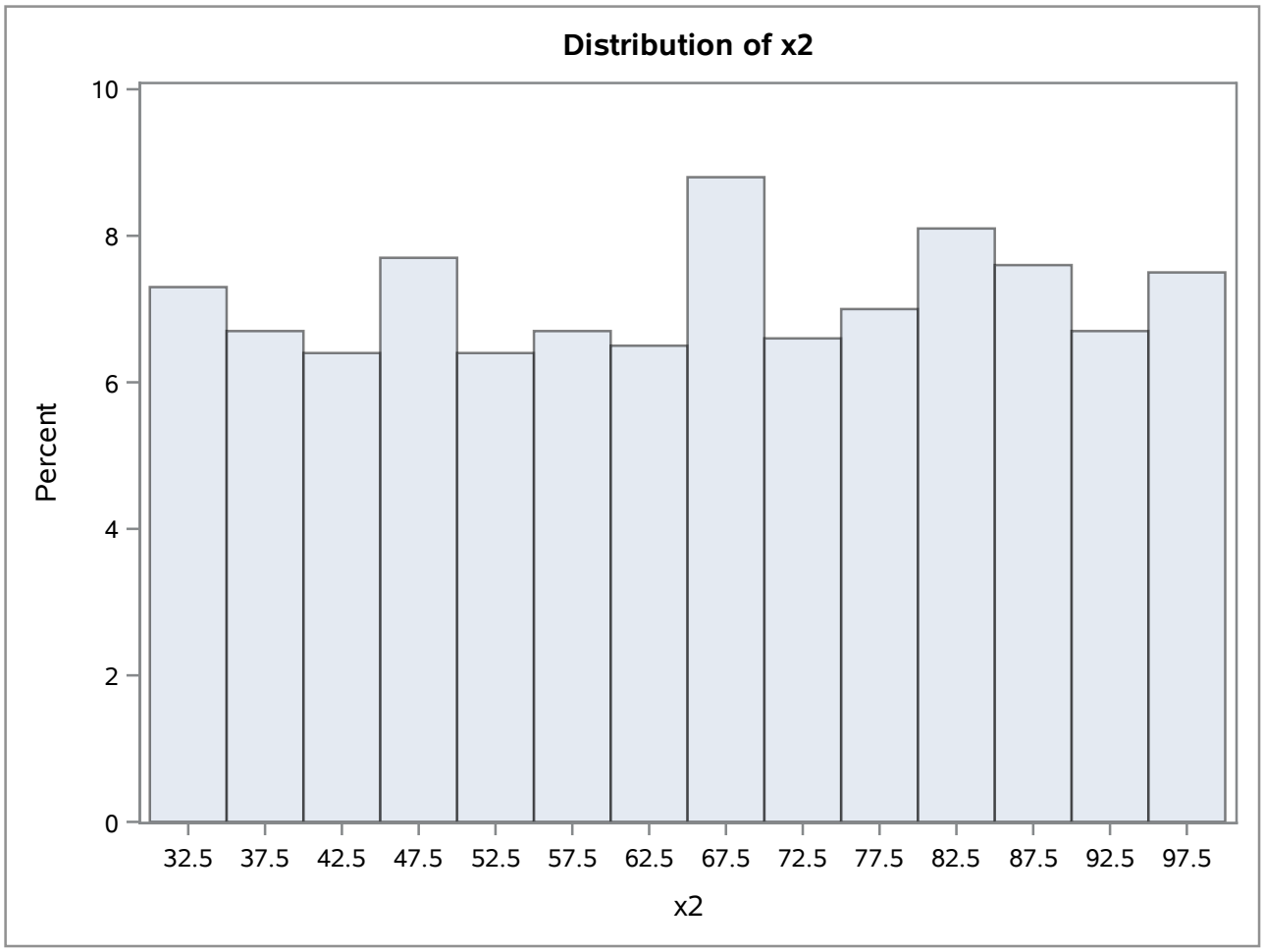
Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	102.9311	**Pr > |t|**	<.0001
Sign	**M**	500	**Pr >= |M|**	<.0001
Signed Rank	**S**	250250	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	99.9136
99%	99.2604
95%	96.8647
90%	92.7960
75% Q3	83.0793
50% Median	66.2252
25% Q1	48.6905
10%	37.2497
5%	33.3307
1%	30.8321
0% Min	30.0179

The UNIVARIATE Procedure
Variable: x2

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
30.0179	382	99.6012	215
30.1320	759	99.6436	663
30.3231	84	99.6885	198
30.5172	969	99.8700	600
30.5259	154	99.9136	704

The UNIVARIATE Procedure



The UNIVARIATE Procedure
Variable: u

Moments			
N	1000	**Sum Weights**	1000
Mean	0.50601997	**Sum Observations**	506.019967
Std Deviation	0.28561453	**Variance**	0.08157566
Skewness	-0.0021395	**Kurtosis**	-1.2007766
Uncorrected SS	337.550292	**Corrected SS**	81.4940849
Coeff Variation	56.4433323	**Std Error Mean**	0.00903192

Basic Statistical Measures			
Location		**Variability**	
Mean	0.506020	**Std Deviation**	0.28561
Median	0.517511	**Variance**	0.08158
Mode	.	**Range**	0.99603
		Interquartile Range	0.49182

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	56.02571	**Pr > |t|**	<.0001
Sign	**M**	500	**Pr >= |M|**	<.0001
Signed Rank	**S**	250250	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	0.99934577
99%	0.99067734
95%	0.94886888
90%	0.90434815
75% Q3	0.75370948
50% Median	0.51751077
25% Q1	0.26189177
10%	0.11289735
5%	0.06402621
1%	0.01356232
0% Min	0.00331398

The UNIVARIATE Procedure
Variable: u

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0.00331398	155	0.996536	561
0.00338431	82	0.996775	811
0.00568983	710	0.996985	556
0.00661824	673	0.997022	983
0.00927767	136	0.999346	428

The UNIVARIATE Procedure
Variable: l_b

Moments			
N	1000	**Sum Weights**	1000
Mean	0.356	**Sum Observations**	356
Std Deviation	0.47905479	**Variance**	0.22949349
Skewness	0.60238862	**Kurtosis**	-1.6404128
Uncorrected SS	356	**Corrected SS**	229.264
Coeff Variation	134.565953	**Std Error Mean**	0.01514904

Basic Statistical Measures			
Location		**Variability**	
Mean	0.356000	**Std Deviation**	0.47905
Median	0.000000	**Variance**	0.22949
Mode	0.000000	**Range**	1.00000
		Interquartile Range	1.00000

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	23.49983	**Pr > |t|**	<.0001
Sign	**M**	178	**Pr >= |M|**	<.0001
Signed Rank	**S**	31773	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	1
99%	1
95%	1
90%	1
75% Q3	1
50% Median	0
25% Q1	0
10%	0
5%	0
1%	0
0% Min	0

The UNIVARIATE Procedure
Variable: l_b

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0	998	1	992
0	996	1	995
0	994	1	997
0	993	1	999
0	987	1	1000

The UNIVARIATE Procedure
Variable: l_c

Moments			
N	1000	**Sum Weights**	1000
Mean	0.155	**Sum Observations**	155
Std Deviation	0.36208577	**Variance**	0.13110611
Skewness	1.90944472	**Kurtosis**	1.64927369
Uncorrected SS	155	**Corrected SS**	130.975
Coeff Variation	233.603724	**Std Error Mean**	0.01145016

Basic Statistical Measures			
Location		**Variability**	
Mean	0.155000	**Std Deviation**	0.36209
Median	0.000000	**Variance**	0.13111
Mode	0.000000	**Range**	1.00000
		Interquartile Range	0

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	13.53693	**Pr > |t|**	<.0001
Sign	**M**	77.5	**Pr >= |M|**	<.0001
Signed Rank	**S**	6045	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	1
99%	1
95%	1
90%	1
75% Q3	0
50% Median	0
25% Q1	0
10%	0
5%	0
1%	0
0% Min	0

The UNIVARIATE Procedure
Variable: l_c

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
0	1000	1	955
0	999	1	960
0	998	1	979
0	997	1	981
0	996	1	983

The UNIVARIATE Procedure
Variable: eps

Moments			
N	1000	**Sum Weights**	1000
Mean	0.05924359	**Sum Observations**	59.243589
Std Deviation	1.02486108	**Variance**	1.05034023
Skewness	-0.1717451	**Kurtosis**	0.10258259
Uncorrected SS	1052.79969	**Corrected SS**	1049.28989
Coeff Variation	1729.91052	**Std Error Mean**	0.03240895

Basic Statistical Measures			
Location		**Variability**	
Mean	0.059244	**Std Deviation**	1.02486
Median	0.043250	**Variance**	1.05034
Mode	.	**Range**	7.24362
		Interquartile Range	1.42132

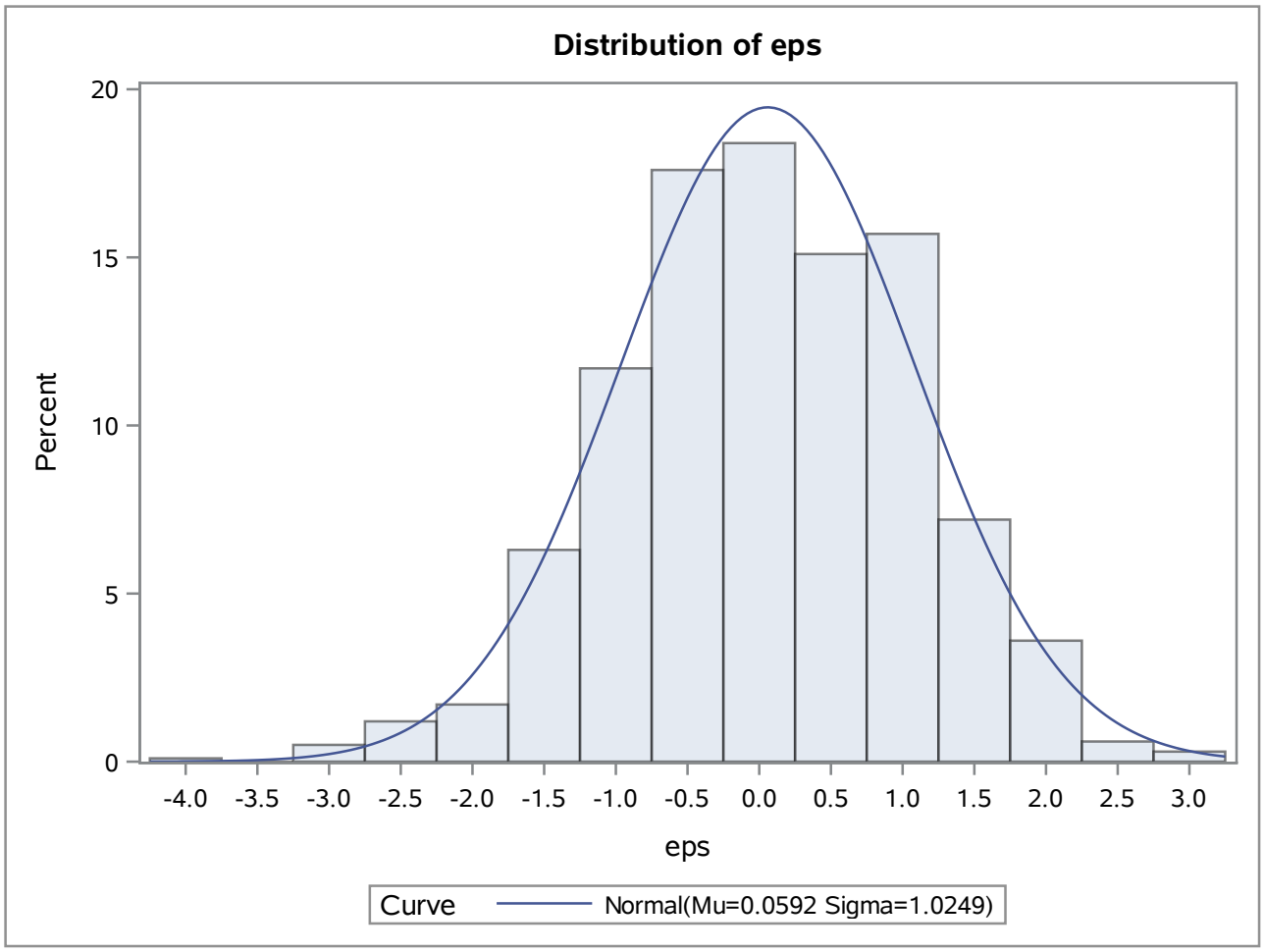
Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	1.828001	**Pr > |t|**	0.0678
Sign	**M**	17	**Pr >= |M|**	0.2967
Signed Rank	**S**	19216	**Pr >= |S|**	0.0354

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	3.0990968
99%	2.2041591
95%	1.7150888
90%	1.3489225
75% Q3	0.8070940
50% Median	0.0432501
25% Q1	-0.6142245
10%	-1.2260246
5%	-1.5822420
1%	-2.5658339
0% Min	-4.1445280

The UNIVARIATE Procedure
Variable: eps

Extreme Observations			
Lowest		**Highest**	
Value	**Obs**	**Value**	**Obs**
-4.14453	707	2.41116	338
-3.19043	546	2.53142	149
-2.97127	751	2.95218	375
-2.90629	371	2.96321	693
-2.81298	220	3.09910	556

The UNIVARIATE Procedure



The UNIVARIATE Procedure
Fitted Normal Distribution for eps

Parameters for Normal Distribution		
Parameter	**Symbol**	**Estimate**
Mean	Mu	0.059244
Std Dev	Sigma	1.024861

Goodness-of-Fit Tests for Normal Distribution				
Test	**Statistic**		**p Value**	
Kolmogorov-Smirnov	**D**	0.02530626	**Pr > D**	0.121
Cramer-von Mises	**W-Sq**	0.06996860	**Pr > W-Sq**	>0.250
Anderson-Darling	**A-Sq**	0.51795828	**Pr > A-Sq**	0.197

Quantiles for Normal Distribution		
	Quantile	
Percent	**Observed**	**Estimated**
1.0	-2.56583	-2.32494
5.0	-1.58224	-1.62650
10.0	-1.22602	-1.25417
25.0	-0.61422	-0.63201
50.0	0.04325	0.05924
75.0	0.80709	0.75050
90.0	1.34892	1.37266
95.0	1.71509	1.74499
99.0	2.20416	2.44343

The UNIVARIATE Procedure
Variable: y

Moments			
N	1000	**Sum Weights**	1000
Mean	1497.53375	**Sum Observations**	1497533.75
Std Deviation	725.12772	**Variance**	525810.211
Skewness	0.32608296	**Kurtosis**	-1.0386698
Uncorrected SS	2767891743	**Corrected SS**	525284400
Coeff Variation	48.4214609	**Std Error Mean**	22.9305519

Basic Statistical Measures			
Location		**Variability**	
Mean	1497.534	**Std Deviation**	725.12772
Median	1406.060	**Variance**	525810
Mode	.	**Range**	2771
		Interquartile Range	1221

Tests for Location: Mu0=0				
Test	**Statistic**		**p Value**	
Student's t	**t**	65.30736	**Pr > |t|**	<.0001
Sign	**M**	500	**Pr >= |M|**	<.0001
Signed Rank	**S**	250250	**Pr >= |S|**	<.0001

Quantiles (Definition 5)	
Level	**Quantile**
100% Max	3151.719
99%	3031.263
95%	2729.674
90%	2560.708
75% Q3	2085.413
50% Median	1406.060
25% Q1	864.897
10%	583.726
5%	516.236
1%	423.931
0% Min	380.463

The UNIVARIATE Procedure
Variable: y

Extreme Observations			
Lowest		Highest	
Value	Obs	Value	Obs
380.463	48	3099.45	329
401.386	279	3119.22	249
404.700	759	3124.03	280
404.705	969	3130.76	372
407.615	93	3151.72	618

The FREQ Procedure

x3	Frequency	Percent	Cumulative Frequency	Cumulative Percent
A	489	48.90	489	48.90
B	356	35.60	845	84.50
C	155	15.50	1000	100.00

The GLMSELECT Procedure

Data Set	WORK.SIMDATA
Dependent Variable	y
Selection Method	Stepwise
Select Criterion	SBC
Stop Criterion	SBC
Effect Hierarchy Enforced	None

Number of Observations Read	1000
Number of Observations Used	1000

Class Level Information		
Class	**Levels**	**Values**
x3	3	A B C

Dimensions	
Number of Effects	6
Number of Parameters	8

The GLMSELECT Procedure

Stepwise Selection Summary					
Step	Effect Entered	Effect Removed	Number Effects In	Number Parms In	SBC
0	Intercept		1	1	13178.6029
1	x2*x2		2	2	9820.6705
2	x1*x2		3	3	5674.9457
3	x2		4	4	2752.9267
4	x3		5	6	396.2281
5	x1		6	7	80.1769*
* Optimal Value of Criterion					

Selection stopped because all effects are in the final model.

The GLMSELECT Procedure
Selected Model

The selected model is the model at the last step (Step 5).

Effects:	Intercept x1 x2 x2*x2 x1*x2 x3

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	6	525283368	87547228	8.421E7
Error	993	1032.33434	1.03961	
Corrected Total	999	525284400		

Root MSE	1.01961
Dependent Mean	1497.53375
R-Square	1.0000
Adj R-Sq	1.0000
AIC	1047.82259
AICC	1047.96790
SBC	80.17687

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	160.634181	0.402846	398.75
x1	1	7.204582	0.370299	19.46
x2	1	5.997550	0.011841	506.53
x2*x2	1	0.249969	0.000088178	2834.83
x1*x2	1	-6.988066	0.005520	-1265.9
x3 A	1	-10.297511	0.094148	-109.38
x3 B	1	-5.322433	0.098354	-54.11
x3 C	0	0	.	.