The SAS System

Obs	MULCH	DISTANCE	RUN	_TYPE_	_FREQ_	COUNT
1	0	1	1	0	4	15.7500
2	0	1	2	0	4	11.5000
3	0	2	1	0	4	10.0000
4	0	2	2	0	4	6.7500
5	0	3	1	0	4	7.5000
6	0	3	2	0	4	5.2500
7	0	4	1	0	4	4.7500
8	0	4	2	0	4	2.5000
9	0	5	1	0	4	5.0000
10	0	5	2	0	4	2.7500
11	0	6	1	0	4	6.5000
12	0	6	2	0	4	1.2500
13	0	7	1	0	4	2.7500
14	0	7	2	0	4	2.0000
15	0	8	1	0	4	4.2500
16	0	8	2	0	4	1.7500
17	0	9	1	0	4	2.2500
18	0	9	2	0	4	1.0000
19	0	10	1	0	4	1.2500
20	0	10	2	0	4	2.0000
21	0	11	1	0	4	2.0000
22	0	11	2	0	4	1.5000
23	0	12	1	0	4	1.5000
24	0	12	2	0	4	2.0000
25	7	1	1	0	4	4.0000
26	7	1	2	0	4	3.7500
27	7	2	1	0	4	3.2500
28	7	2	2	0	4	4.0000
29	7	3	1	0	4	1.7500
30	7	3	2	0	4	1.0000
31	7	4	1	0	4	0.2500
32	7	4	2	0	4	1.2500
33	7	5	1	0	4	0.5000
34	7	5	2	0	4	0.7500
35	7	6	1	0	4	0.7500
36	7	6	2	0	4	0.2500
37	7	7	1	0	4	1.0000
38	7	7	2	0	4	0.7500
39	7	8	1	0	4	1.0000
40	7	8	2	0	4	0.5000
41	7	9	1	0	4	0.7500
42	7	9	2	0	4	0.0000

43	7	10	1	0	4	0.7500
44	7	10	2	0	4	0.7500
45	7	11	1	0	4	0.3333
46	7	11	2	0	4	0.3333
47	7	12	1	0	4	0.5000
48	7	12	2	0	4	0.0000

The SAS System

The NLIN Procedure
Dependent Variable COUNT
Method: Gauss-Newton

MULCH=0

Iterative Phase			
Iter	A	B	Sum of Squares
0	1.0000	-0.1000	602.8
1	12.5122	-4.7054	385.0
2	12.6484	-1.2262	122.3
3	13.3497	-0.7732	47.7810
4	13.8989	-0.8199	46.7630
5	13.9074	-0.8200	46.7628
6	13.9075	-0.8200	46.7628

NOTE: Convergence criterion met.

Estimation Summary	
Method	Gauss-Newton
Iterations	6
Subiterations	3
Average Subiterations	0.5
R	3.708E-7
PPC(B)	1.553E-7
RPC(B)	4.466E-6
Object	3.23E-10
Objective	46.76279
Observations Read	24
Observations Used	24
Observations Missing	0

Note: An intercept was not specified for this model.

Source	DF	Sum of Squares	Mean Square	F Value	Approx Pr > F
Model	2	724.9	362.5	170.52	<.0001
Error	22	46.7628	2.1256		
Uncorrected Total	24	771.7			

Parameter	Estimate	Approx Std Error	Approximate 95% Confidence Limits	
A	13.9075	0.9643	11.9076	15.9073
B	-0.8200	0.0733	-0.9721	-0.6679

Approximate Correlation Matrix		
	A	B

A	1.0000000	-0.6245960
B	-0.6245960	1.0000000

The SAS System

The NLIN Procedure
Dependent Variable COUNT
Method: Gauss-Newton

MULCH=7

Iterative Phase			
Iter	A	B	Sum of Squares
0	1.0000	-0.1000	35.0093
1	3.8244	-1.6157	17.7791
2	3.9204	-0.8230	7.4810
3	4.2525	-0.9148	7.1412
4	4.2596	-0.9115	7.1403
5	4.2606	-0.9119	7.1403
6	4.2605	-0.9118	7.1403
7	4.2605	-0.9118	7.1403

NOTE: Convergence criterion met.

Estimation Summary	
Method	Gauss-Newton
Iterations	7
Subiterations	1
Average Subiterations	0.142857
R	1.463E-6
PPC(B)	7.925E-7
RPC(B)	6.293E-6
Object	1.18E-10
Objective	7.14027
Observations Read	24
Observations Used	24
Observations Missing	0

Note: An intercept was not specified for this model.

Source	DF	Sum of Squares	Mean Square	F Value	Approx Pr > F
Model	2	61.5820	30.7910	94.87	<.0001
Error	22	7.1403	0.3246		
Uncorrected Total	24	68.7222			

Parameter	Estimate	Approx Std Error	Approximate 95% Confidence Limits	
A	4.2605	0.3813	3.4698	5.0513
B	-0.9118	0.1053	-1.1303	-0.6934

Approximate Correlation Matrix		

	A	B
A	1.0000000	-0.5847299
B	-0.5847299	1.0000000

The SAS System

Obs	MULCH	DISTANCE	RUN	_TYPE_	_FREQ_	COUNT	LOGCOUNT	LOGDIST
1	0	1	1	0	4	15.7500	2.81840	0.00000
2	0	1	2	0	4	11.5000	2.52573	0.00000
3	0	2	1	0	4	10.0000	2.39790	0.69315
4	0	2	2	0	4	6.7500	2.04769	0.69315
5	0	3	1	0	4	7.5000	2.14007	1.09861
6	0	3	2	0	4	5.2500	1.83258	1.09861
7	0	4	1	0	4	4.7500	1.74920	1.38629
8	0	4	2	0	4	2.5000	1.25276	1.38629
9	0	5	1	0	4	5.0000	1.79176	1.60944
10	0	5	2	0	4	2.7500	1.32176	1.60944
11	0	6	1	0	4	6.5000	2.01490	1.79176
12	0	6	2	0	4	1.2500	0.81093	1.79176
13	0	7	1	0	4	2.7500	1.32176	1.94591
14	0	7	2	0	4	2.0000	1.09861	1.94591
15	0	8	1	0	4	4.2500	1.65823	2.07944
16	0	8	2	0	4	1.7500	1.01160	2.07944
17	0	9	1	0	4	2.2500	1.17865	2.19722
18	0	9	2	0	4	1.0000	0.69315	2.19722
19	0	10	1	0	4	1.2500	0.81093	2.30259
20	0	10	2	0	4	2.0000	1.09861	2.30259
21	0	11	1	0	4	2.0000	1.09861	2.39790
22	0	11	2	0	4	1.5000	0.91629	2.39790
23	0	12	1	0	4	1.5000	0.91629	2.48491
24	0	12	2	0	4	2.0000	1.09861	2.48491
25	7	1	1	0	4	4.0000	1.60944	0.00000
26	7	1	2	0	4	3.7500	1.55814	0.00000
27	7	2	1	0	4	3.2500	1.44692	0.69315
28	7	2	2	0	4	4.0000	1.60944	0.69315
29	7	3	1	0	4	1.7500	1.01160	1.09861
30	7	3	2	0	4	1.0000	0.69315	1.09861
31	7	4	1	0	4	0.2500	0.22314	1.38629
32	7	4	2	0	4	1.2500	0.81093	1.38629
33	7	5	1	0	4	0.5000	0.40547	1.60944
34	7	5	2	0	4	0.7500	0.55962	1.60944
35	7	6	1	0	4	0.7500	0.55962	1.79176
36	7	6	2	0	4	0.2500	0.22314	1.79176
37	7	7	1	0	4	1.0000	0.69315	1.94591
38	7	7	2	0	4	0.7500	0.55962	1.94591
39	7	8	1	0	4	1.0000	0.69315	2.07944
40	7	8	2	0	4	0.5000	0.40547	2.07944
41	7	9	1	0	4	0.7500	0.55962	2.19722
42	7	9	2	0	4	0.0000	0.00000	2.19722

43	7	10	1	0	4	0.7500	0.55962	2.30259
44	7	10	2	0	4	0.7500	0.55962	2.30259
45	7	11	1	0	4	0.3333	0.28768	2.39790
46	7	11	2	0	4	0.3333	0.28768	2.39790
47	7	12	1	0	4	0.5000	0.40547	2.48491
48	7	12	2	0	4	0.0000	0.00000	2.48491

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: LOGCOUNT

MULCH=0

Number of Observations Read	24
Number of Observations Used	24

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	6.46266	6.46266	79.97	<.0001
Error	22	1.77798	0.08082		
Corrected Total	23	8.24065			

Root MSE	0.28428	R-Square	0.7842
Dependent Mean	1.48354	Adj R-Sq	0.7744
Coeff Var	19.16251		

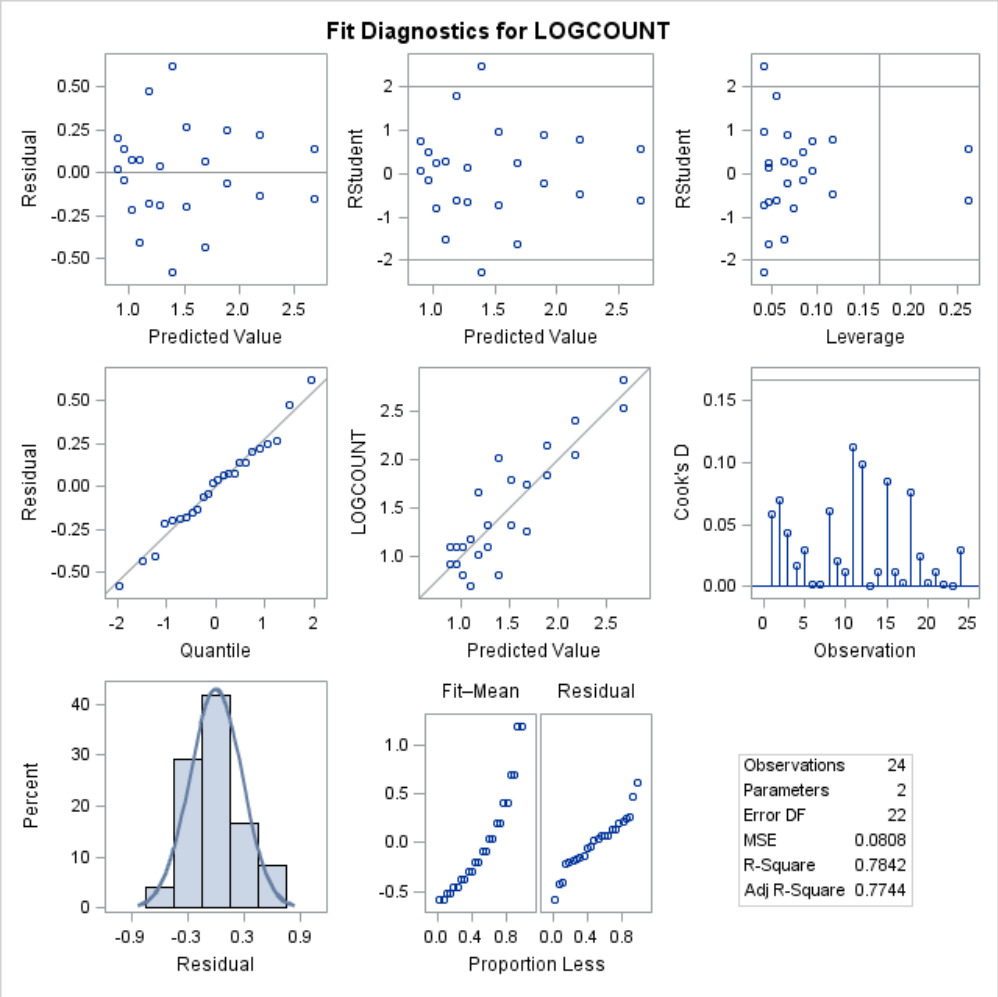
Parameter Estimates

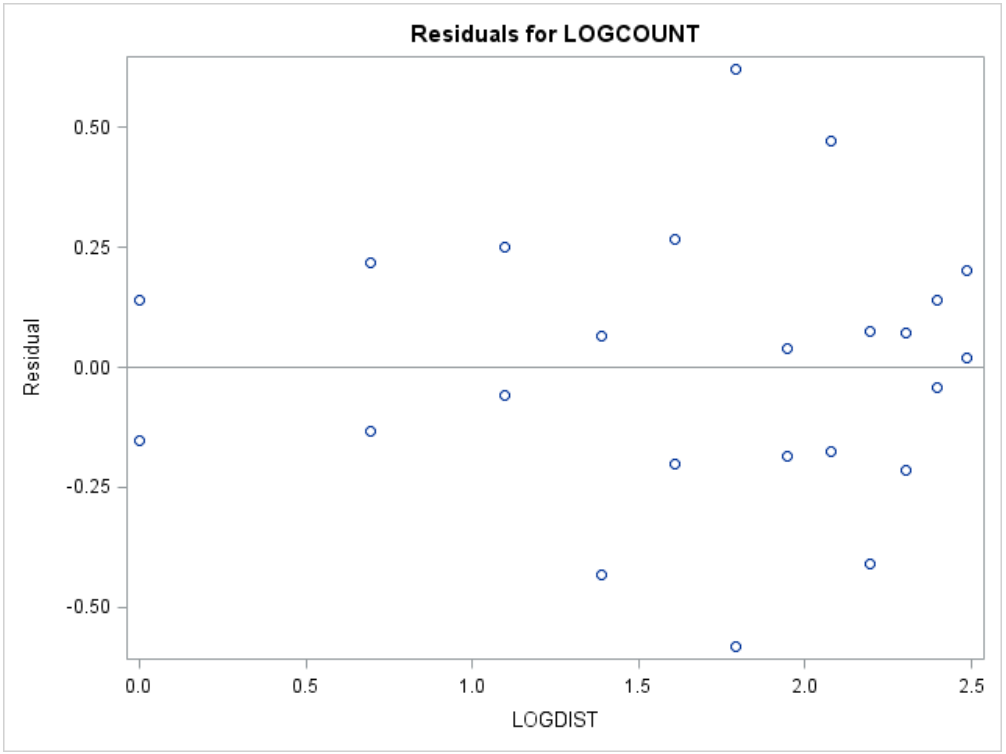
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	2.67791	0.14562	18.39	<.0001
LOGDIST	1	-0.71708	0.08019	-8.94	<.0001

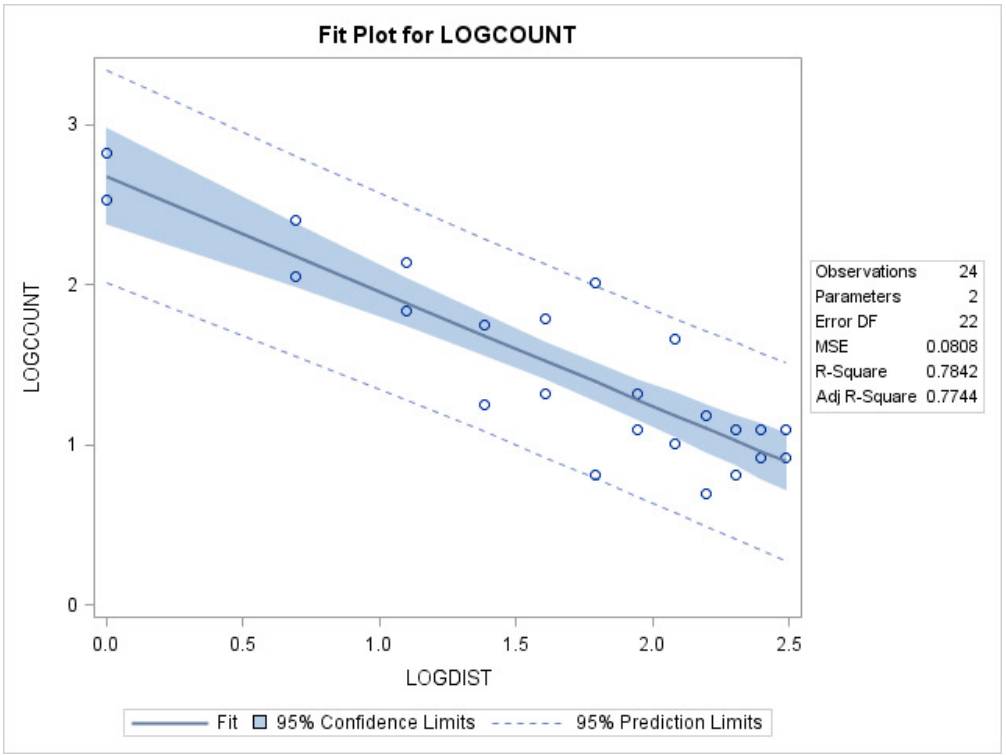
The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: LOGCOUNT

MULCH=0




Residuals for LOGCOUNT
Residual
0.50
0.25
0.00
-0.25
-0.50
0.0
0.5
1.0
1.5
2.0
2.5
LOGDIST


Fit Plot for LOGCOUNT
LOGCOUNT
3
2
1
0
0.0
0.5
1.0
1.5
2.0
2.5
LOGDIST
Observations 24
Parameters 2
Error DF 22
MSE 0.0808
R-Square 0.7842
Adj R-Square 0.7744
Fit
95% Confidence Limits
95% Prediction Limits

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: LOGCOUNT

MULCH=7

Number of Observations Read	24
Number of Observations Used	24

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	3.77619	3.77619	59.91	<.0001
Error	22	1.38665	0.06303		
Corrected Total	23	5.16284			

Root MSE	0.25106	R-Square	0.7314
Dependent Mean	0.65507	Adj R-Sq	0.7192
Coeff Var	38.32523		

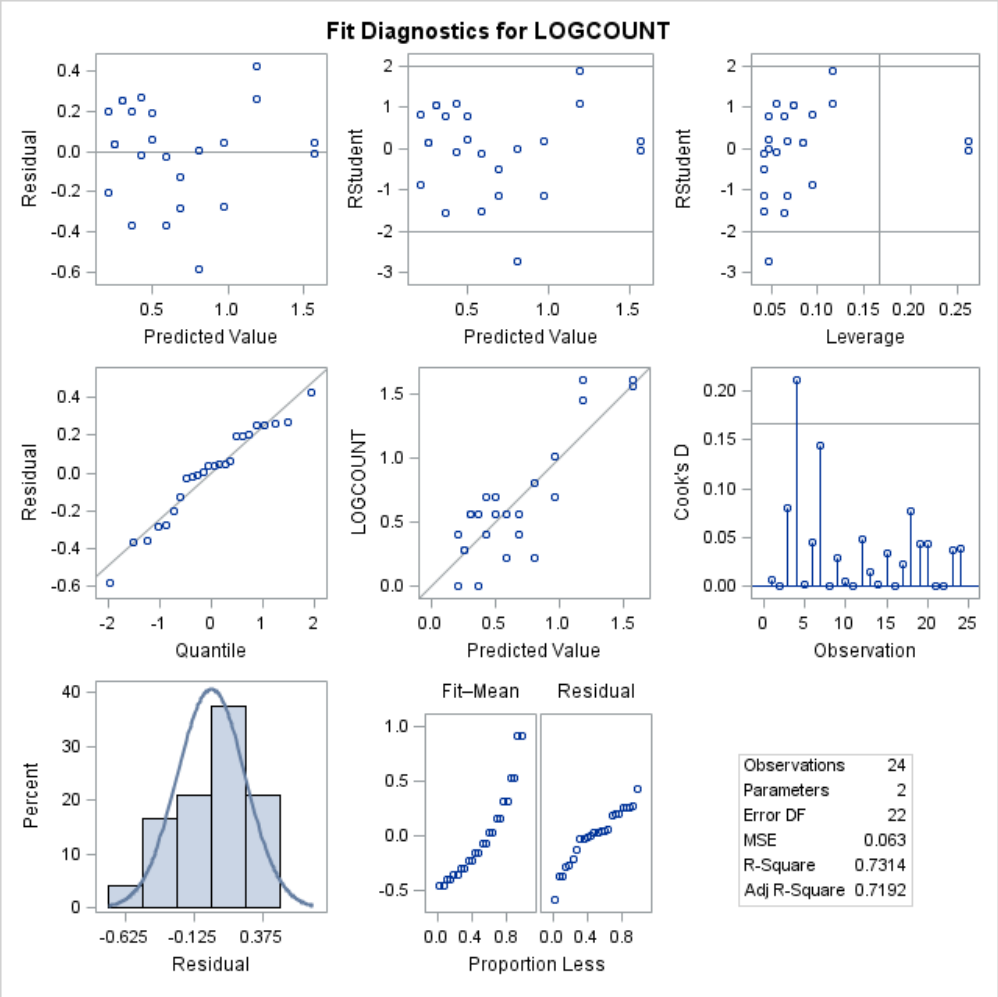
Parameter Estimates

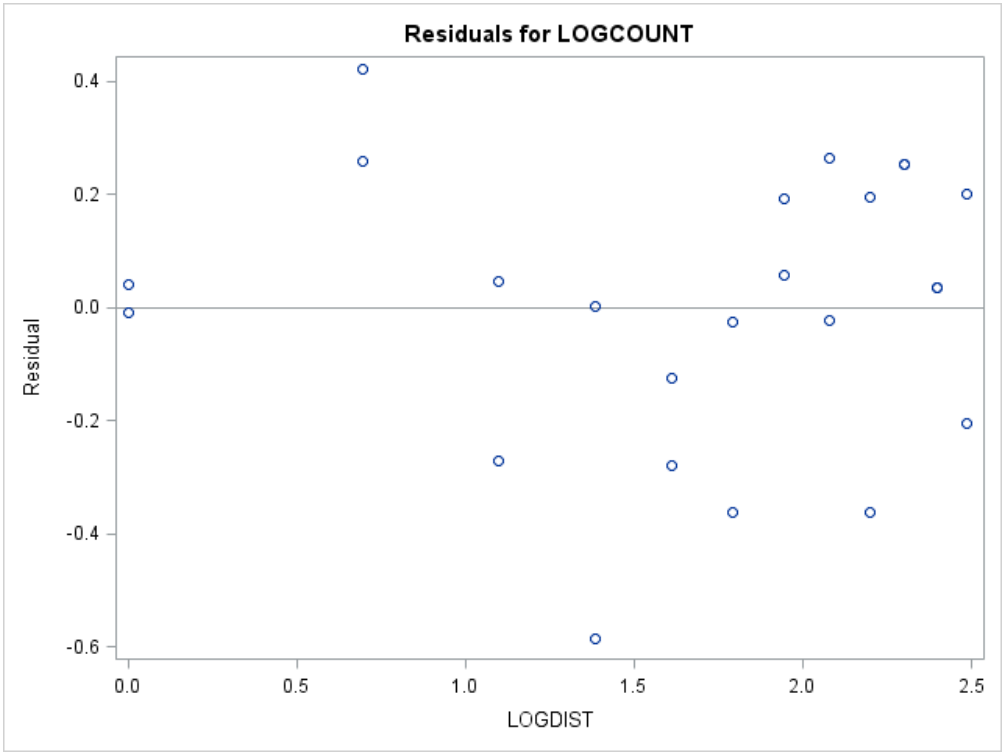
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1.56804	0.12860	12.19	<.0001
LOGDIST	1	-0.54814	0.07082	-7.74	<.0001

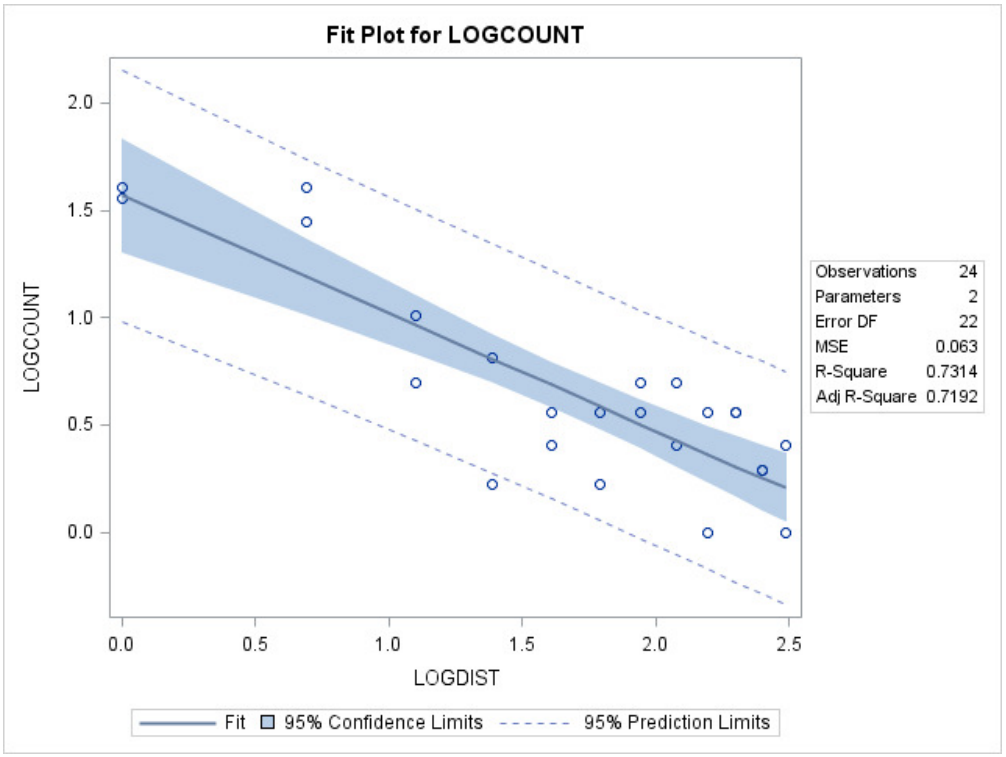
The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: LOGCOUNT

MULCH=7




Residuals for LOGCOUNT
Residual
0.4
0.2
0.0
-0.2
-0.4
-0.6
0.0
0.5
1.0
1.5
2.0
2.5
LOGDIST


Fit Plot for LOGCOUNT
LOGCOUNT
2.0
1.5
1.0
0.5
0.0
0.0
0.5
1.0
1.5
2.0
2.5
LOGDIST
Observations 24
Parameters 2
Error DF 22
MSE 0.063
R-Square 0.7314
Adj R-Square 0.7192
Fit
95% Confidence Limits
95% Prediction Limits

The SAS System

The Mixed Procedure

Model Information	
Data Set	WORK.A3
Dependent Variable	LOGCOUNT
Covariance Structures	Variance Components, Autoregressive
Subject Effect	RUN*MULCH
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Between-Within

Class Level Information		
Class	Levels	Values
RUN	2	1 2
MULCH	2	0 7

Dimensions	
Covariance Parameters	3
Columns in X	6
Columns in Z	2
Subjects	1
Max Obs per Subject	48

Number of Observations	
Number of Observations Read	48
Number of Observations Used	48
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	20.47032917	
1	2	12.36670397	0.00000052
2	1	12.36668595	0.00000000

Convergence criteria met.

Estimated R Matrix for RUN*MULCH 1 0												
Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12
1	0.06257	0.01441	0.003319	0.000764	0.000176	0.000041	9.337E-6	2.15E-6	4.952E-7	1.141E-7	2.627E-8	6.049E-9
2	0.01441	0.06257	0.01441	0.003319	0.000764	0.000176	0.000041	9.337E-6	2.15E-6	4.952E-7	1.141E-7	2.627E-8
3	0.003319	0.01441	0.06257	0.01441	0.003319	0.000764	0.000176	0.000041	9.337E-6	2.15E-6	4.952E-7	1.141E-7
4	0.000764	0.003319	0.01441	0.06257	0.01441	0.003319	0.000764	0.000176	0.000041	9.337E-6	2.15E-6	4.952E-7
5	0.000176	0.000764	0.003319	0.01441	0.06257	0.01441	0.003319	0.000764	0.000176	0.000041	9.337E-6	2.15E-6
6	0.000041	0.000176	0.000764	0.003319	0.01441	0.06257	0.01441	0.003319	0.000764	0.000176	0.000041	9.337E-6
7	9.337E-6	0.000041	0.000176	0.000764	0.003319	0.01441	0.06257	0.01441	0.003319	0.000764	0.000176	0.000041

8	2.15E-6	9.337E-6	0.000041	0.000176	0.000764	0.003319	0.01441	0.06257	0.01441	0.003319	0.000764	0.000176
9	4.952E-7	2.15E-6	9.337E-6	0.000041	0.000176	0.000764	0.003319	0.01441	0.06257	0.01441	0.003319	0.000764
10	1.141E-7	4.952E-7	2.15E-6	9.337E-6	0.000041	0.000176	0.000764	0.003319	0.01441	0.06257	0.01441	0.003319
11	2.627E-8	1.141E-7	4.952E-7	2.15E-6	9.337E-6	0.000041	0.000176	0.000764	0.003319	0.01441	0.06257	0.01441
12	6.049E-9	2.627E-8	1.141E-7	4.952E-7	2.15E-6	9.337E-6	0.000041	0.000176	0.000764	0.003319	0.01441	0.06257

Estimated R Correlation Matrix for RUN*MULCH 1 0

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12
1	1.0000	0.2303	0.05304	0.01222	0.002813	0.000648	0.000149	0.000034	7.915E-6	1.823E-6	4.198E-7	9.669E-8
2	0.2303	1.0000	0.2303	0.05304	0.01222	0.002813	0.000648	0.000149	0.000034	7.915E-6	1.823E-6	4.198E-7
3	0.05304	0.2303	1.0000	0.2303	0.05304	0.01222	0.002813	0.000648	0.000149	0.000034	7.915E-6	1.823E-6
4	0.01222	0.05304	0.2303	1.0000	0.2303	0.05304	0.01222	0.002813	0.000648	0.000149	0.000034	7.915E-6
5	0.002813	0.01222	0.05304	0.2303	1.0000	0.2303	0.05304	0.01222	0.002813	0.000648	0.000149	0.000034
6	0.000648	0.002813	0.01222	0.05304	0.2303	1.0000	0.2303	0.05304	0.01222	0.002813	0.000648	0.000149
7	0.000149	0.000648	0.002813	0.01222	0.05304	0.2303	1.0000	0.2303	0.05304	0.01222	0.002813	0.000648
8	0.000034	0.000149	0.000648	0.002813	0.01222	0.05304	0.2303	1.0000	0.2303	0.05304	0.01222	0.002813
9	7.915E-6	0.000034	0.000149	0.000648	0.002813	0.01222	0.05304	0.2303	1.0000	0.2303	0.05304	0.01222
10	1.823E-6	7.915E-6	0.000034	0.000149	0.000648	0.002813	0.01222	0.05304	0.2303	1.0000	0.2303	0.05304
11	4.198E-7	1.823E-6	7.915E-6	0.000034	0.000149	0.000648	0.002813	0.01222	0.05304	0.2303	1.0000	0.2303
12	9.669E-8	4.198E-7	1.823E-6	7.915E-6	0.000034	0.000149	0.000648	0.002813	0.01222	0.05304	0.2303	1.0000

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr Z
RUN		0.02025	0.03435	0.59	0.2777
AR(1)	RUN*MULCH	0.2303	0.1598	1.44	0.1495
Residual		0.06257	0.01511	4.14	<.0001

Fit Statistics

-2 Res Log Likelihood	12.4
AIC (Smaller is Better)	18.4
AICC (Smaller is Better)	19.0
BIC (Smaller is Better)	14.4

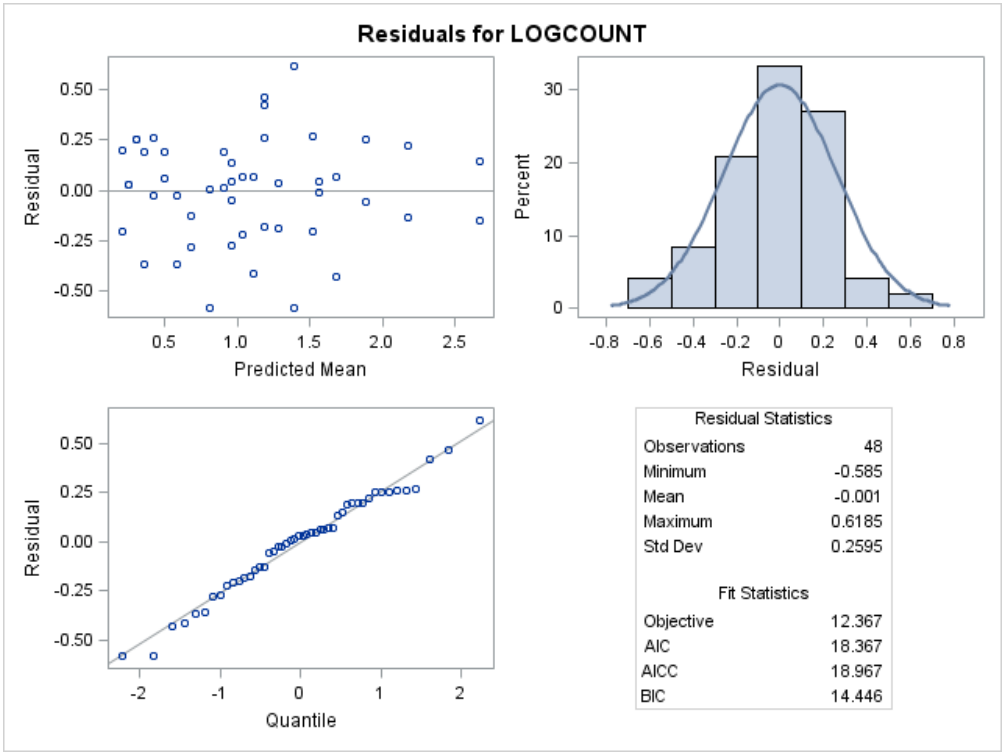
Solution for Fixed Effects

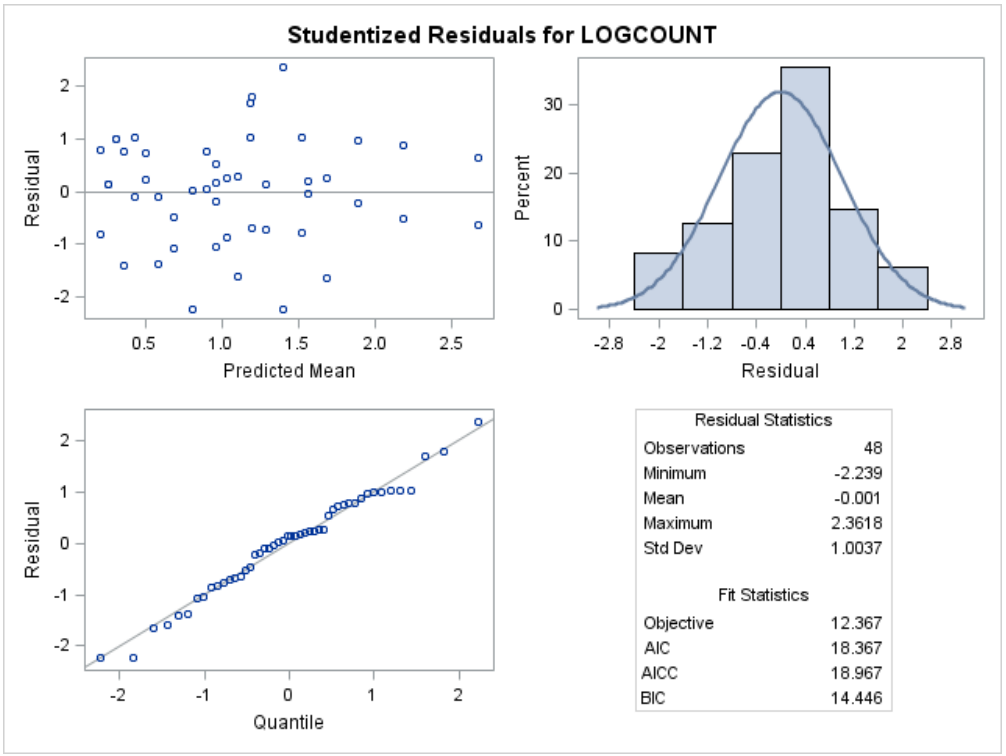
Effect	MULCH	Estimate	Standard Error	DF	t Value	Pr > |t|
Intercept		1.5663	0.1783	2	8.79	0.0127
MULCH	0	1.1054	0.2081	2	5.31	0.0337
MULCH	7	0	.	.	.	.
LOGDIST		-0.5469	0.08081	42	-6.77	<.0001
LOGDIST*MULCH	0	-0.1649	0.1143	42	-1.44	0.1565
LOGDIST*MULCH	7	0	.	.	.	.

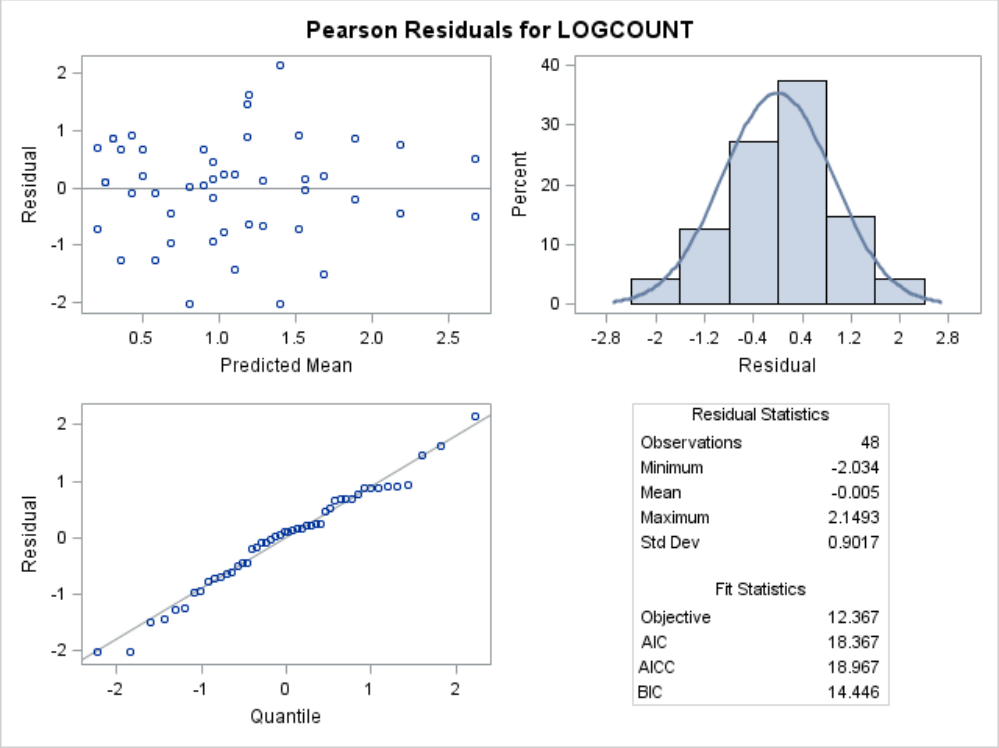
Type 3 Tests of Fixed Effects

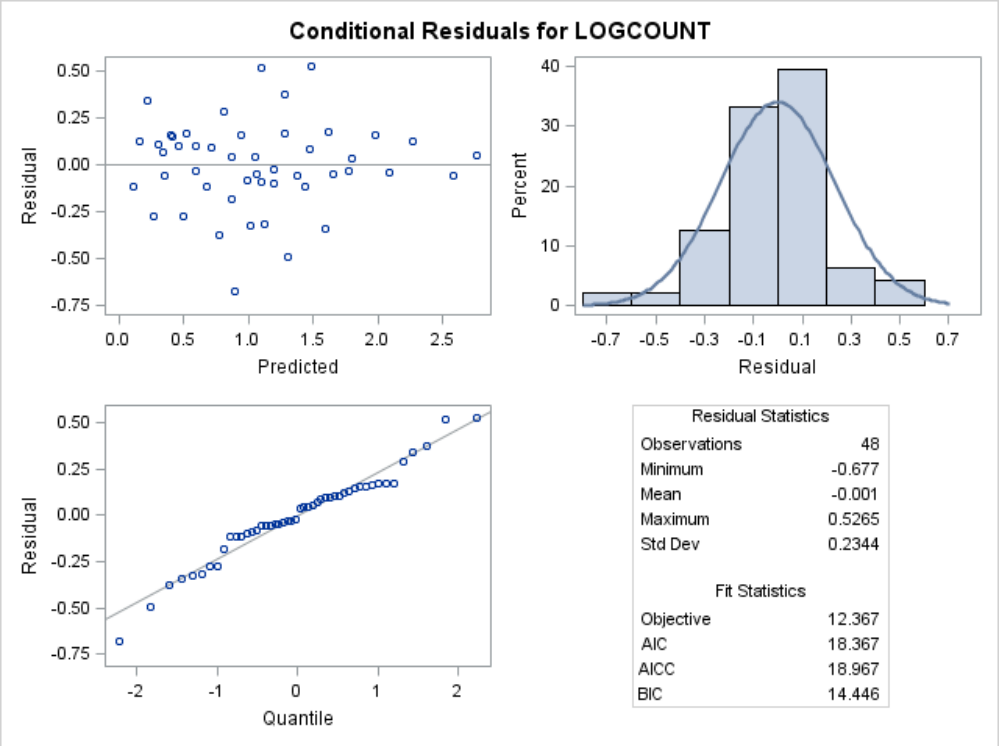
Effect	Num DF	Den DF	F Value	Pr > F
MULCH	1	2	28.22	0.0337

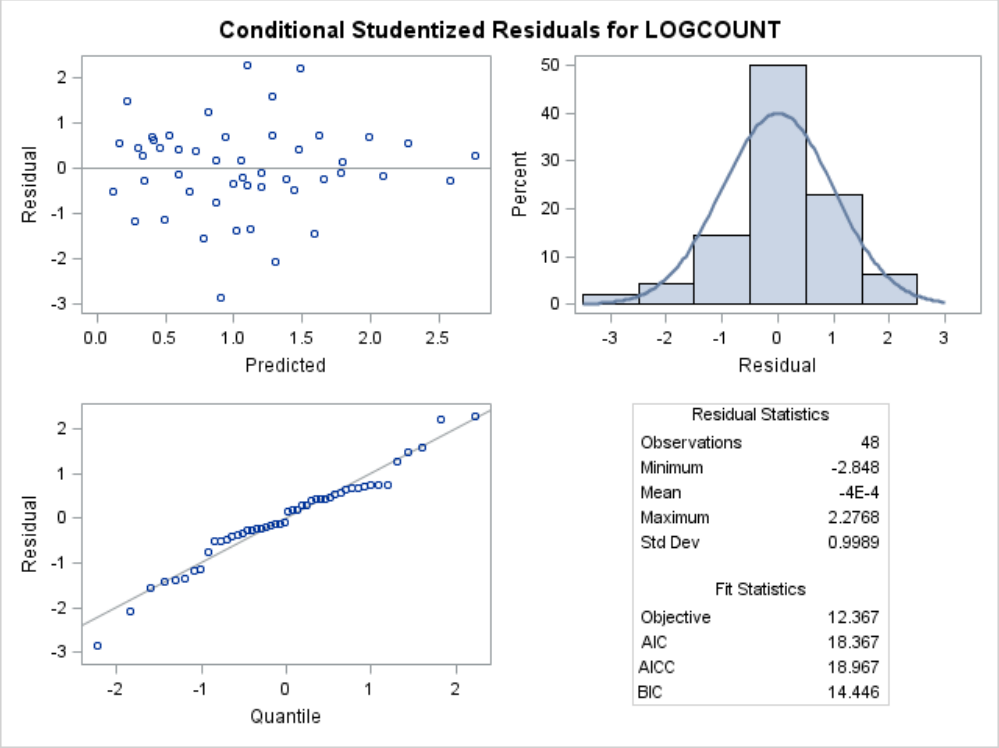
LOGDIST	1	42	121.29	<.0001
LOGDIST*MULCH	1	42	2.08	0.1565

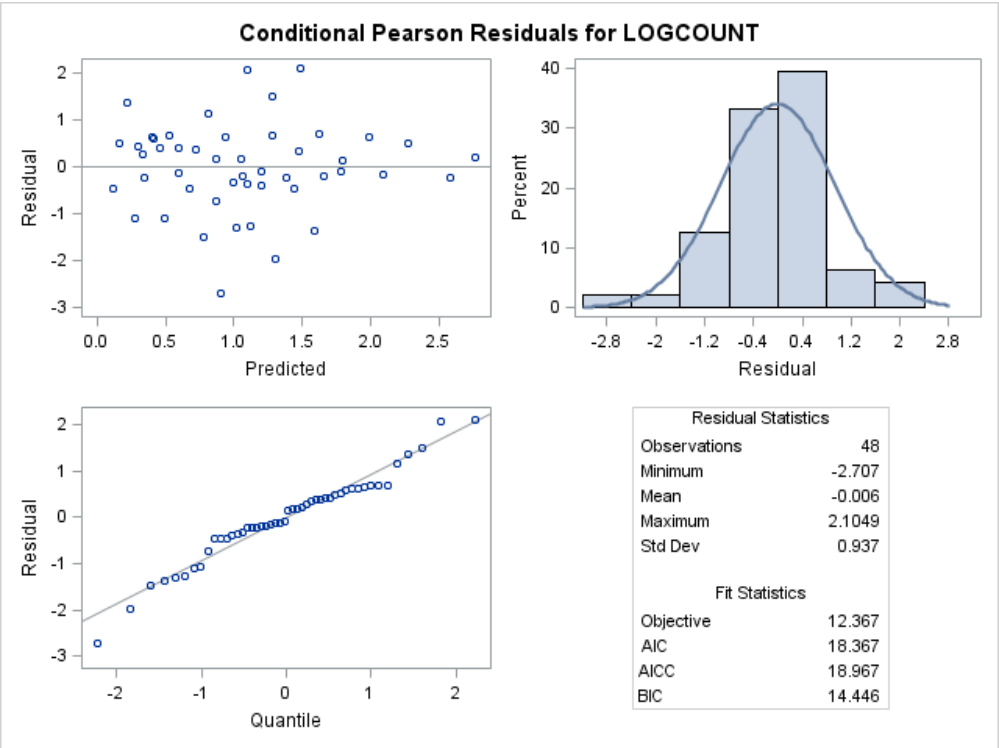





Pearson Residuals for LOGCOUNT
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -2.034
Mean -0.005
Maximum 2.1493
Std Dev 0.9017
Fit Statistics
Objective 12.367
AIC 18.367
AICC 18.967
BIC 14.446


Conditional Residuals for LOGCOUNT
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -0.677
Mean -0.001
Maximum 0.5265
Std Dev 0.2344
Fit Statistics
Objective 12.367
AIC 18.367
AICC 18.967
BIC 14.446


Conditional Studentized Residuals for LOGCOUNT
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -2.848
Mean -4E-4
Maximum 2.2768
Std Dev 0.9989
Fit Statistics
Objective 12.367
AIC 18.367
AICC 18.967
BIC 14.446


Conditional Pearson Residuals for LOGCOUNT
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -2.707
Mean -0.006
Maximum 2.1049
Std Dev 0.937
Fit Statistics
Objective 12.367
AIC 18.367
AICC 18.967
BIC 14.446

The SAS System

The Mixed Procedure

Model Information	
Data Set	WORK.A3
Dependent Variable	LOGCOUNT
Covariance Structures	Variance Components, Autoregressive
Subject Effect	RUN*MULCH
Estimation Method	REML
Residual Variance Method	Profile
Fixed Effects SE Method	Model-Based
Degrees of Freedom Method	Between-Within

Class Level Information		
Class	Levels	Values
RUN	2	1 2
MULCH	2	0 7

Dimensions	
Covariance Parameters	3
Columns in X	3
Columns in Z	2
Subjects	1
Max Obs per Subject	48

Number of Observations	
Number of Observations Read	48
Number of Observations Used	48
Number of Observations Not Used	0

Iteration History			
Iteration	Evaluations	-2 Res Log Like	Criterion
0	1	20.30754124	
1	2	11.90497488	0.00000128
2	1	11.90492916	0.00000000

Convergence criteria met.

Estimated R Matrix for RUN*MULCH 1 0												
Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12
1	0.06523	0.01678	0.004317	0.001111	0.000286	0.000073	0.000019	4.864E-6	1.251E-6	3.219E-7	8.28E-8	2.13E-8
2	0.01678	0.06523	0.01678	0.004317	0.001111	0.000286	0.000073	0.000019	4.864E-6	1.251E-6	3.219E-7	8.28E-8
3	0.004317	0.01678	0.06523	0.01678	0.004317	0.001111	0.000286	0.000073	0.000019	4.864E-6	1.251E-6	3.219E-7
4	0.001111	0.004317	0.01678	0.06523	0.01678	0.004317	0.001111	0.000286	0.000073	0.000019	4.864E-6	1.251E-6
5	0.000286	0.001111	0.004317	0.01678	0.06523	0.01678	0.004317	0.001111	0.000286	0.000073	0.000019	4.864E-6
6	0.000073	0.000286	0.001111	0.004317	0.01678	0.06523	0.01678	0.004317	0.001111	0.000286	0.000073	0.000019
7	0.000019	0.000073	0.000286	0.001111	0.004317	0.01678	0.06523	0.01678	0.004317	0.001111	0.000286	0.000073

8	4.864E-6	0.000019	0.000073	0.000286	0.001111	0.004317	0.01678	0.06523	0.01678	0.004317	0.001111	0.000286
9	1.251E-6	4.864E-6	0.000019	0.000073	0.000286	0.001111	0.004317	0.01678	0.06523	0.01678	0.004317	0.001111
10	3.219E-7	1.251E-6	4.864E-6	0.000019	0.000073	0.000286	0.001111	0.004317	0.01678	0.06523	0.01678	0.004317
11	8.28E-8	3.219E-7	1.251E-6	4.864E-6	0.000019	0.000073	0.000286	0.001111	0.004317	0.01678	0.06523	0.01678
12	2.13E-8	8.28E-8	3.219E-7	1.251E-6	4.864E-6	0.000019	0.000073	0.000286	0.001111	0.004317	0.01678	0.06523

Estimated R Correlation Matrix for RUN*MULCH 1 0

Row	Col1	Col2	Col3	Col4	Col5	Col6	Col7	Col8	Col9	Col10	Col11	Col12
1	1.0000	0.2573	0.06618	0.01702	0.004379	0.001127	0.000290	0.000075	0.000019	4.934E-6	1.269E-6	3.265E-7
2	0.2573	1.0000	0.2573	0.06618	0.01702	0.004379	0.001127	0.000290	0.000075	0.000019	4.934E-6	1.269E-6
3	0.06618	0.2573	1.0000	0.2573	0.06618	0.01702	0.004379	0.001127	0.000290	0.000075	0.000019	4.934E-6
4	0.01702	0.06618	0.2573	1.0000	0.2573	0.06618	0.01702	0.004379	0.001127	0.000290	0.000075	0.000019
5	0.004379	0.01702	0.06618	0.2573	1.0000	0.2573	0.06618	0.01702	0.004379	0.001127	0.000290	0.000075
6	0.001127	0.004379	0.01702	0.06618	0.2573	1.0000	0.2573	0.06618	0.01702	0.004379	0.001127	0.000290
7	0.000290	0.001127	0.004379	0.01702	0.06618	0.2573	1.0000	0.2573	0.06618	0.01702	0.004379	0.001127
8	0.000075	0.000290	0.001127	0.004379	0.01702	0.06618	0.2573	1.0000	0.2573	0.06618	0.01702	0.004379
9	0.000019	0.000075	0.000290	0.001127	0.004379	0.01702	0.06618	0.2573	1.0000	0.2573	0.06618	0.01702
10	4.934E-6	0.000019	0.000075	0.000290	0.001127	0.004379	0.01702	0.06618	0.2573	1.0000	0.2573	0.06618
11	1.269E-6	4.934E-6	0.000019	0.000075	0.000290	0.001127	0.004379	0.01702	0.06618	0.2573	1.0000	0.2573
12	3.265E-7	1.269E-6	4.934E-6	0.000019	0.000075	0.000290	0.001127	0.004379	0.01702	0.06618	0.2573	1.0000

Covariance Parameter Estimates

Cov Parm	Subject	Estimate	Standard Error	Z Value	Pr Z
RUN		0.01974	0.03417	0.58	0.2817
AR(1)	RUN*MULCH	0.2573	0.1566	1.64	0.1005
Residual		0.06523	0.01566	4.16	<.0001

Fit Statistics	
-2 Res Log Likelihood	11.9
AIC (Smaller is Better)	17.9
AICC (Smaller is Better)	18.5
BIC (Smaller is Better)	14.0

Solution for Fixed Effects

Effect	MULCH	Estimate	Standard Error	DF	t Value	Pr > |t|
MULCH	0	2.5358	0.1538	2	16.48	0.0037
MULCH	7	1.7009	0.1538	2	11.06	0.0081
LOGDIST		-0.6288	0.05916	43	-10.63	<.0001

Type 3 Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
MULCH	2	2	144.48	0.0069
LOGDIST	1	43	112.98	<.0001

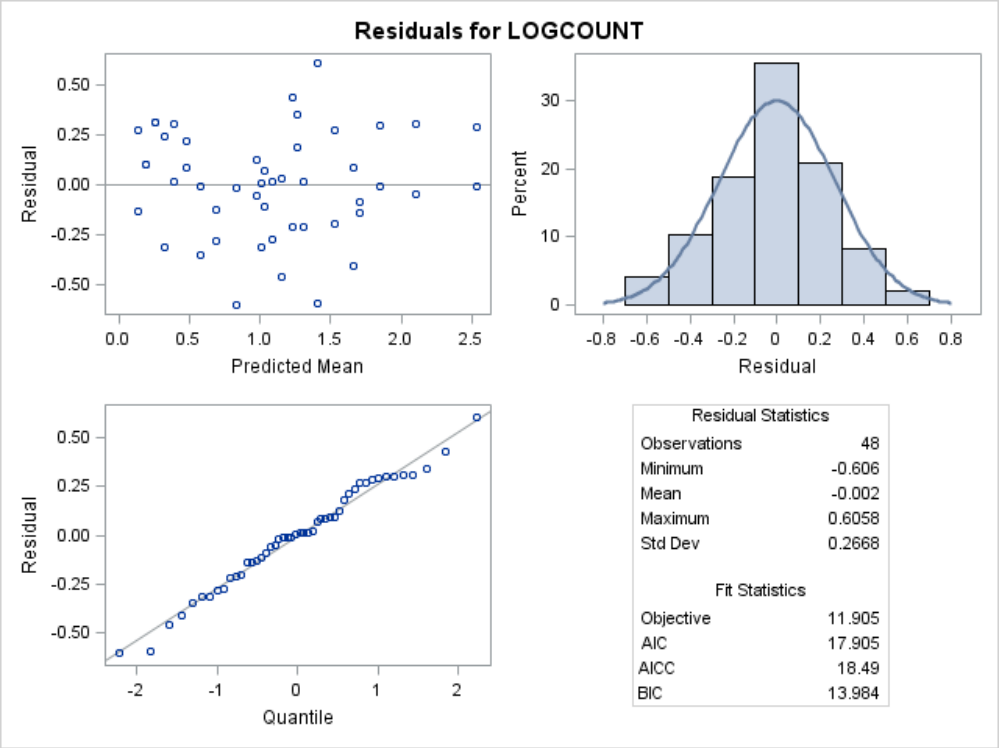
Least Squares Means

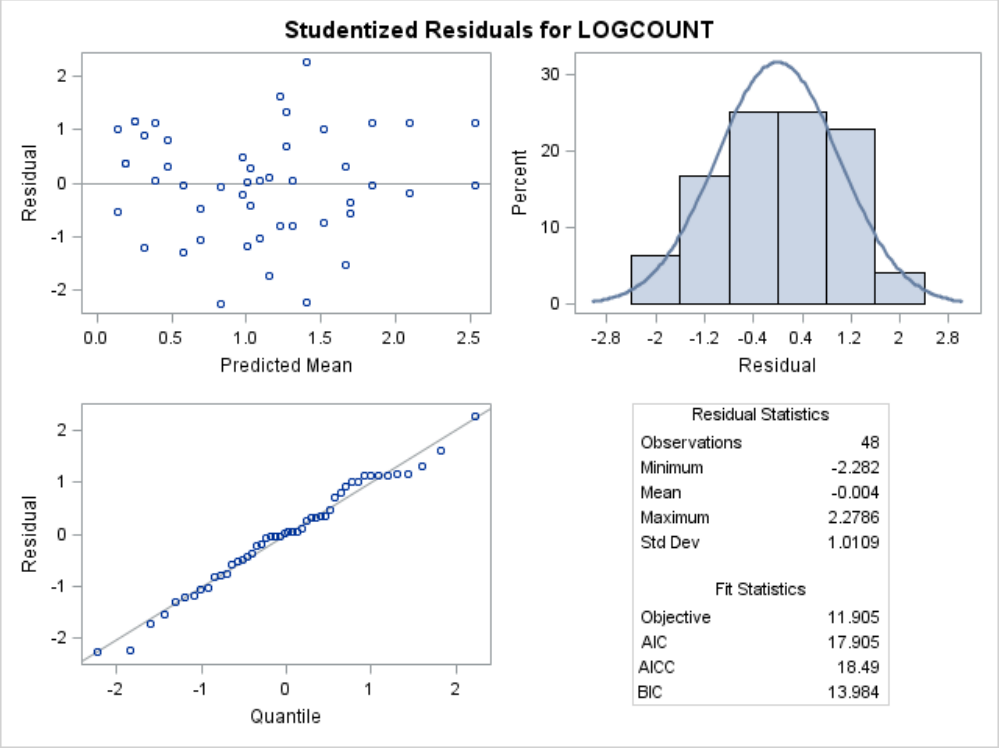
				Standard			

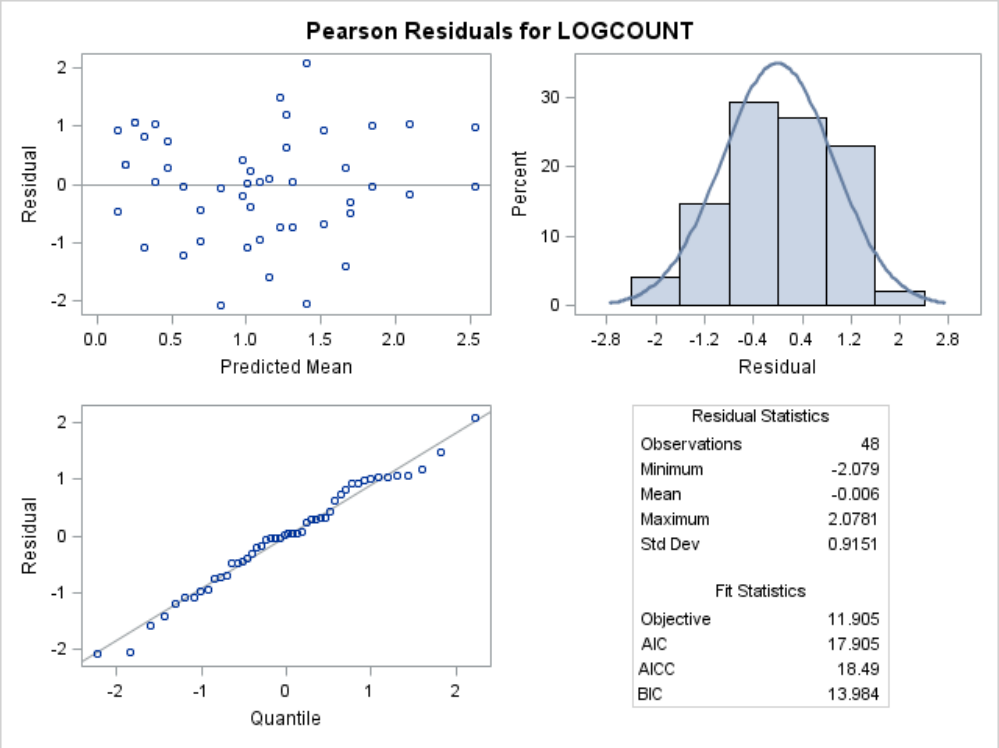
Effect	MULCH	LOGDIST	Estimate	Error	DF	t Value	Pr > |t|
MULCH	0	1.67	1.4885	0.1193	2	12.48	0.0064
MULCH	7	1.67	0.6535	0.1193	2	5.48	0.0317
MULCH	0	0.00	2.5358	0.1538	2	16.48	0.0037
MULCH	7	0.00	1.7009	0.1538	2	11.06	0.0081
MULCH	0	1.00	1.9070	0.1252	2	15.24	0.0043
MULCH	7	1.00	1.0721	0.1252	2	8.57	0.0134
MULCH	0	2.00	1.2782	0.1211	2	10.55	0.0089
MULCH	7	2.00	0.4433	0.1211	2	3.66	0.0672

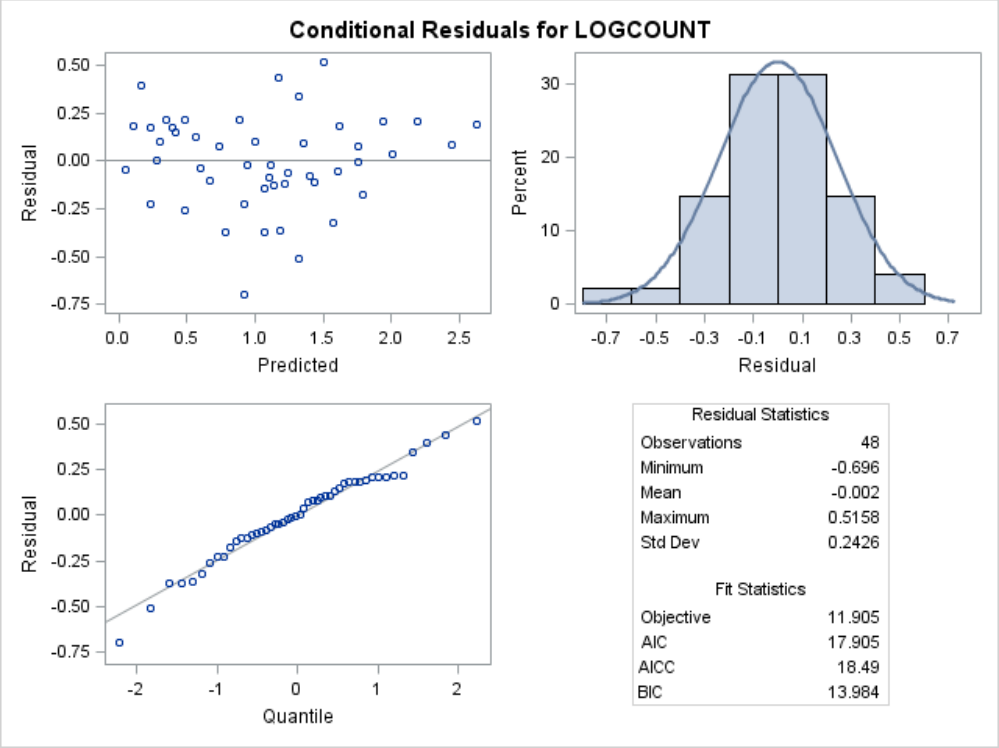
Differences of Least Squares Means

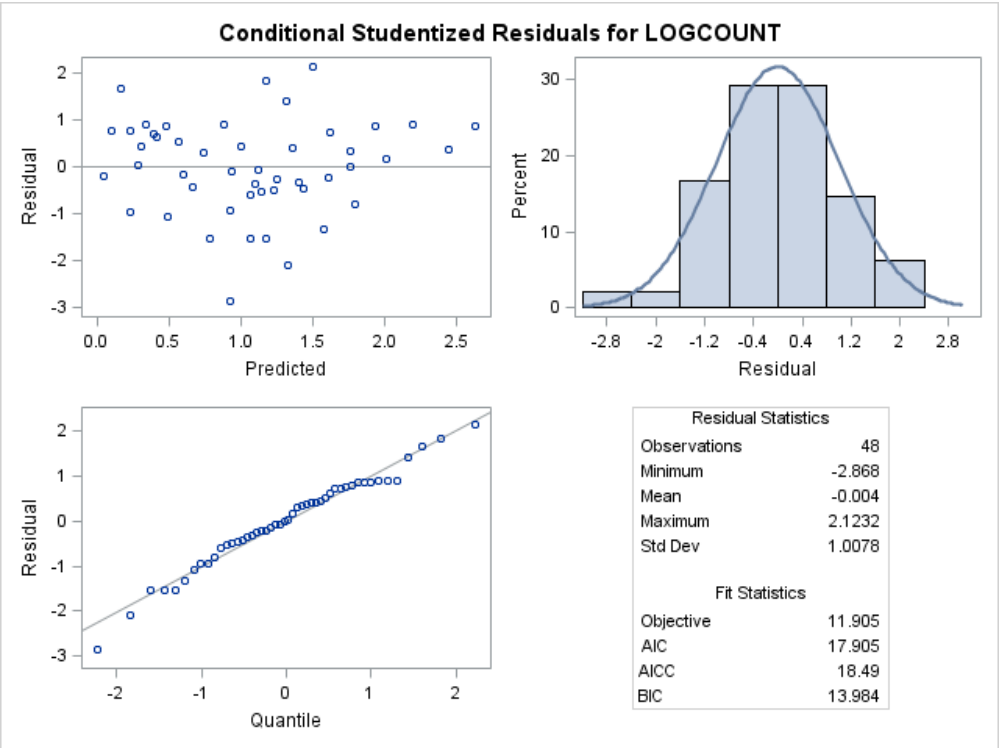
Effect	MULCH	_MULCH	LOGDIST	Estimate	Standard Error	DF	t Value	Pr > |t|
MULCH	0	7	1.67	0.8349	0.09327	2	8.95	0.0123
MULCH	0	7	0.00	0.8349	0.09327	2	8.95	0.0123
MULCH	0	7	1.00	0.8349	0.09327	2	8.95	0.0123
MULCH	0	7	2.00	0.8349	0.09327	2	8.95	0.0123

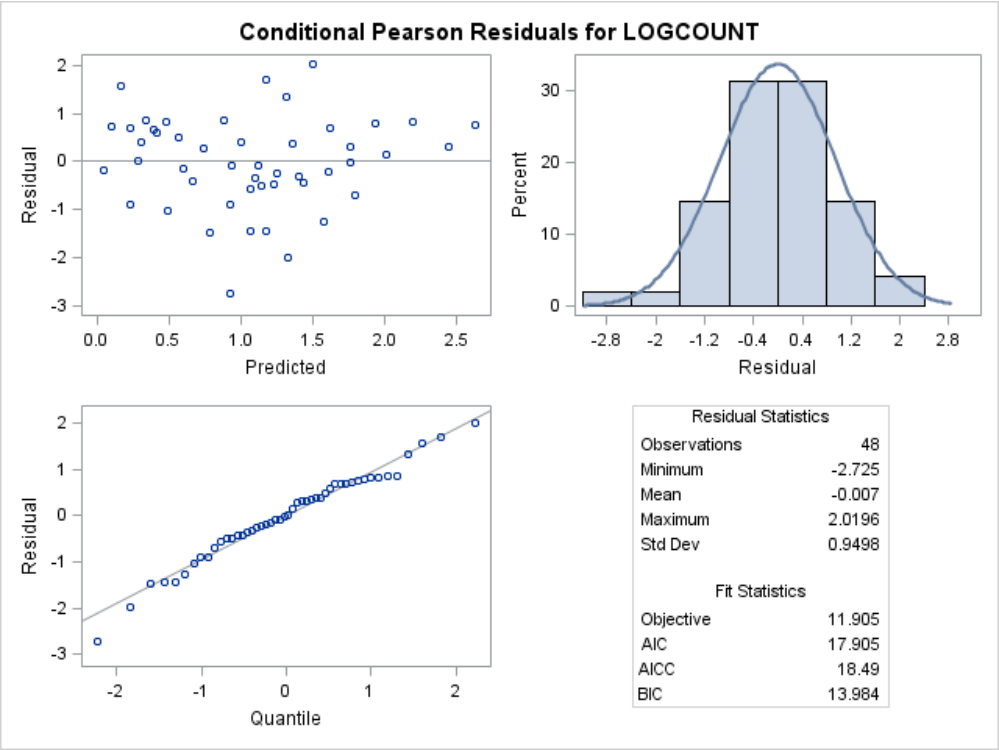



Studentized Residuals for LOGCOUNT
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -2.282
Mean -0.004
Maximum 2.2786
Std Dev 1.0109
Fit Statistics
Objective 11.905
AIC 17.905
AICC 18.49
BIC 13.984


Pearson Residuals for LOGCOUNT
Residual
Predicted Mean
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -2.079
Mean -0.006
Maximum 2.0781
Std Dev 0.9151
Fit Statistics
Objective 11.905
AIC 17.905
AICC 18.49
BIC 13.984


Conditional Residuals for LOGCOUNT
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -0.696
Mean -0.002
Maximum 0.5158
Std Dev 0.2426
Fit Statistics
Objective 11.905
AIC 17.905
AICC 18.49
BIC 13.984


Conditional Studentized Residuals for LOGCOUNT
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -2.868
Mean -0.004
Maximum 2.1232
Std Dev 1.0078
Fit Statistics
Objective 11.905
AIC 17.905
AICC 18.49
BIC 13.984


Conditional Pearson Residuals for LOGCOUNT
Residual
Predicted
Percent
Residual
Residual
Quantile
Residual Statistics
Observations 48
Minimum -2.725
Mean -0.007
Maximum 2.0196
Std Dev 0.9498
Fit Statistics
Objective 11.905
AIC 17.905
AICC 18.49
BIC 13.984

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: LOGCOUNT

Number of Observations Read	48
Number of Observations Used	48

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	18.29506	18.29506	251.60	<.0001
Error	46	3.34485	0.07271		
Corrected Total	47	21.63991			

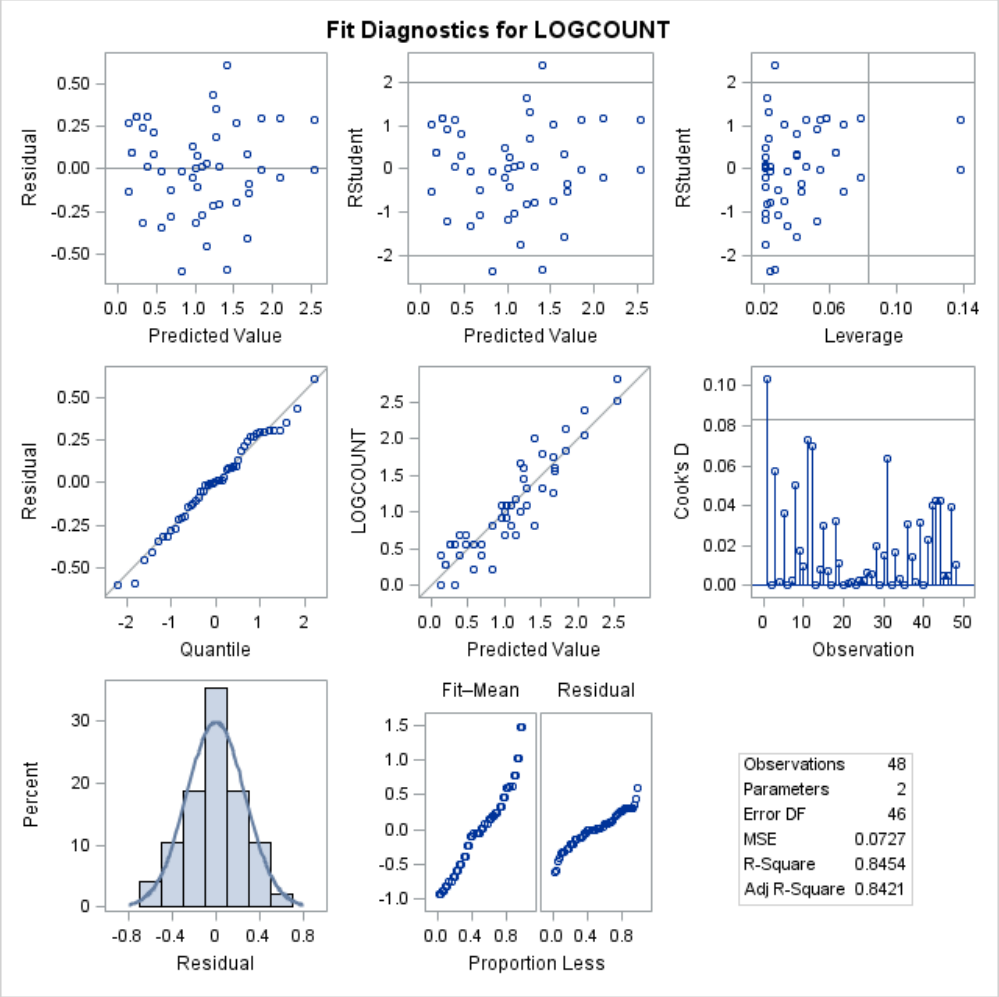
Root MSE	0.26966	R-Square	0.8454
Dependent Mean	1.06931	Adj R-Sq	0.8421
Coeff Var	25.21782		

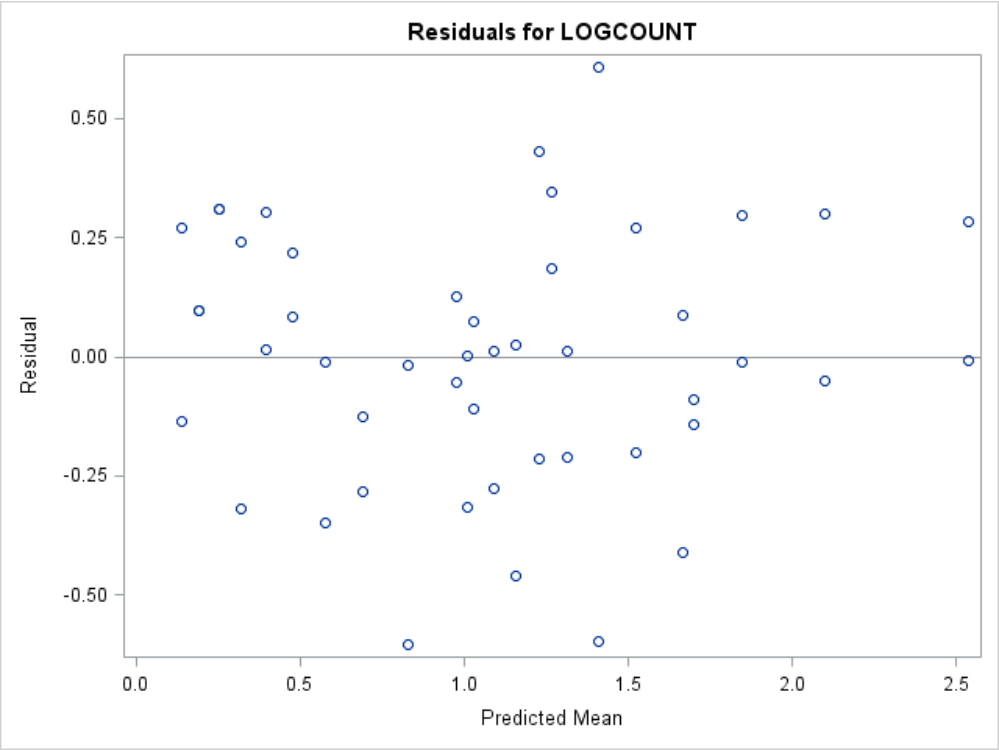
Parameter Estimates

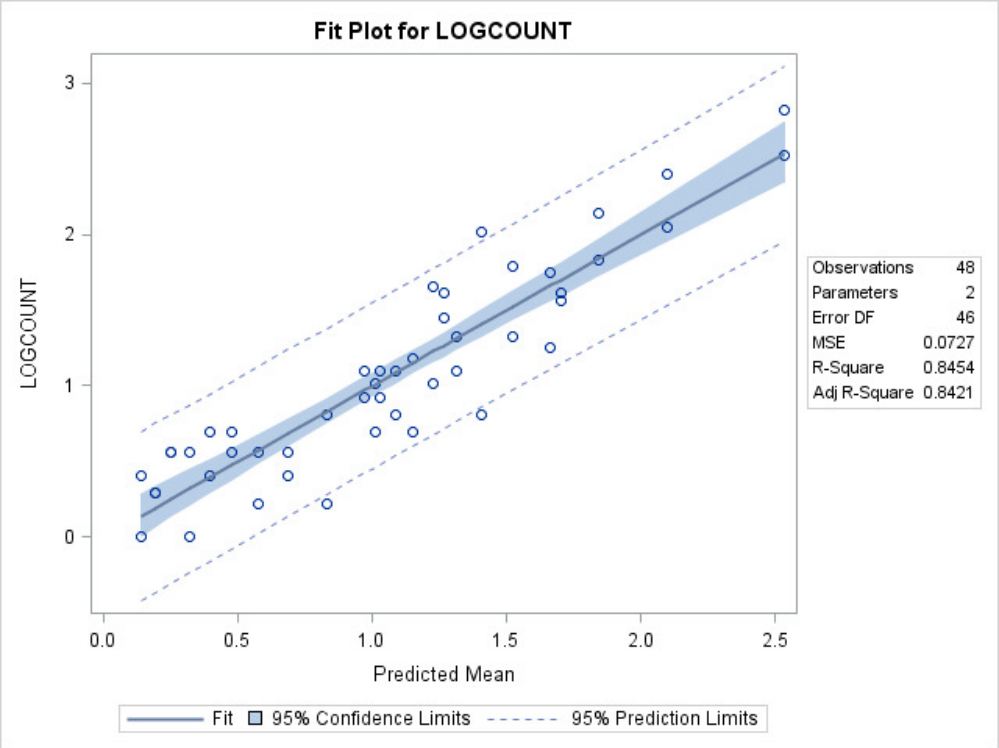
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	-0.00143	0.07792	-0.02	0.9854
Pred	Predicted Mean	1	0.99975	0.06303	15.86	<.0001

The SAS System

The REG Procedure
Model: MODEL1
Dependent Variable: LOGCOUNT




Residuals for LOGCOUNT
Residual
0.50
0.25
0.00
-0.25
-0.50
0.0
0.5
1.0
1.5
2.0
2.5
Predicted Mean


Fit Plot for LOGCOUNT
LOGCOUNT
3
2
1
0
0.0
0.5
1.0
1.5
2.0
2.5
Predicted Mean
Observations 48
Parameters 2
Error DF 46
MSE 0.0727
R-Square 0.8454
Adj R-Square 0.8421
Fit
95% Confidence Limits
95% Prediction Limits