Analysis of Variance

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Pr &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
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<td>Corrected Total</td>
<td>39</td>
<td>21322</td>
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</tr>
</tbody>
</table>

Root MSE: 20.15818
R-Square: 0.2758
Dependent Mean: 65.81550
Adj R-Sq: 0.2567
Coef Var: 30.62832

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > |t| |
|----------|----|--------------------|----------------|---------|------|---|
| Intercept| 1  | 37.72148           | 8.04371        | 4.69    | <.0001 |
| x        | 1  | 1.43154            | 0.37632        | 3.80    | 0.0005 |

Studentized Deleted Residual

Squared Residual

Standardized Predicted Value

Standardized Predicted Value
Analysis of Variance

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<thead>
<tr>
<th>Source</th>
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<th>Pr &gt; F</th>
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</thead>
<tbody>
<tr>
<td>Model</td>
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<td>0.00354</td>
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</tbody>
</table>

Root MSE = 0.01852    R-Square = 0.2138
Dependent Mean = 0.12842    Adj R-Sq = 0.1931
Coeff Var = 14.42172

Parameter Estimates

| Parameter | DF | Estimate | Standard Error | t Value | Pr > |t| |
|-----------|----|----------|----------------|---------|------|---|
| Intercept | 1  | 0.15023  | 0.00739        | 20.33   | <.0001|
| x         | 1  | -0.00111 | 0.00034574     | -3.21   | 0.0027|

Studentized Deleted Residual

Squared Residual (1/Y**.5)
## Analysis of Variance

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<tr>
<th>Source</th>
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<th>F Value</th>
<th>Pr &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
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Root MSE: 0.00482  R-Square: 0.1862
Dependent Mean: 0.01691  Adj R-Sq: 0.1647
Coeff Var: 28.51715

## Parameter Estimates

| Parameter      | DF | Standard | Estimate | Error     | t Value | Pr > |t| |
|----------------|----|----------|----------|-----------|---------|------|---|
| Intercept      | 1  | 0.02211  | 0.00192  | 11.49     | <.0001  |      |   |
| x              | 1  | -0.00026534 | 0.00009000 | -2.95     | 0.0054  |      |   |

## Studentized Deleted Residual vs Standardized Predicted Value

## Squared Residual (1/Y) vs Standardized Predicted Value
proc reg data=trans;
model y = x;run;
output out=trans predicted=yhat residual=e ;run;
data trans;set trans;
abse=abs(e);esq=e**2;
run;
proc reg data=trans;
model abse = yhat;
output out=trans predicted=peabs;run;
proc reg data=trans;
model esq = yhat;
output out=trans predicted=pesq;run;
data trans;set trans;
wabs=1/peabs;
we2=1/pesq;
sqrwabs=sqrt(wabs);
yt=sqrwabs*y;xt=sqrwabs*x;run;
proc reg data=trans;
proc reg data=trans;
proc reg data=trans;
model y = x;
weight wabs;
plot rstudent.*predicted.;run;
proc reg data=trans;
model y = x;
weight we2;
plot rstudent.*predicted.;run;
proc reg data=trans;
model yt = sqrwabs xt / noint ;run;
The REG Procedure  
Model: MODEL1  
Dependent Variable: y  

Weight: wabs  
Analysis of Variance  

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<tr>
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<tbody>
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<td>Corrected Total</td>
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<td>1253.69130</td>
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</tbody>
</table>

Root MSE = 4.68926  
R-Square = 0.3335  
Dependent Mean = 58.31210  
Adj R-Sq = 0.3160  
Coeff Var = 8.04166

Parameter Estimates  

| Variable | DF | Parameter | Standard Error | t Value | Pr > |t| |
|----------|----|-----------|----------------|---------|------|
| Intercept| 1  | 40.58032  | 4.70695        | 8.62   | <.0001|
| x        | 1  | 1.28587   | 0.29489        | 4.36   | <.0001|

\[ \text{y} = 40.58 + 1.2859 \times x \]
The REG Procedure
Model: MODEL1
Dependent Variable: y

Weight: we2

Analysis of Variance

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<th>F Value</th>
<th>Pr &gt; F</th>
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<tbody>
<tr>
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<td>Corrected Total</td>
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<td>49.54914</td>
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</tbody>
</table>

Root MSE: 1.04115, R-Square: 0.2124, Dependent Mean: 58.87884, Adj R-Sq: 0.1905, Coeff Var: 1.76829

Parameter Estimates

| Parameter | DF | Estimate | Error  | t Value | Pr > |t|   |
|-----------|----|----------|--------|---------|-------|-----|
| Intercept | 1  | 42.71624 | 5.67567| 7.53    | <.0001|
| x         | 1  | 1.18030  | 0.37878| 3.12    | 0.0036|

\[ y = 42.716 + 1.1803 \times x \]
The REG Procedure
Model: MODEL1
Dependent Variable: yt

NOTE: No intercept in model. R-Square is redefined.

Analysis of Variance

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Root MSE: 4.68926
R-Square: 0.9426
Dependent Mean: 18.12207
Adj R-Sq: 0.9396
Coeff Var: 25.87596

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > |t| |
|----------|----|--------------------|----------------|---------|-------|
| sqrwabs  | 1  | 40.58032           | 4.70695        | 8.62    | <.0001|
| xt       | 1  | 1.28587            | 0.29489        | 4.36    | <.0001|