

```

data a;
input w_i w p v sf;
y = w_i - w;
cards;
6.135 3.80 2.42 6.80 4.564
5.341 3.00 3.23 7.40 5.262
6.893 3.60 3.33 7.50 5.361
8.394 4.10 3.85 7.60 5.668
7.663 4.00 4.05 7.80 5.866
7.406 3.30 4.31 8.00 6.093
7.217 3.50 4.33 8.20 6.202
7.296 3.10 4.44 8.30 6.306
8.721 3.70 4.50 8.30 6.336
8.561 3.80 4.54 8.50 6.455
6.987 3.60 4.61 6.70 5.598
8.159 3.90 4.63 6.80 5.658
6.577 3.40 4.79 6.90 5.787
6.404 3.00 5.24 7.00 6.059
7.348 3.50 5.50 7.20 6.287
8.310 3.50 5.37 7.40 6.321
8.038 3.40 5.58 7.50 6.475
7.599 2.90 5.59 7.60 6.529
7.882 3.30 6.12 7.90 6.940
9.174 3.40 5.79 8.40 7.024
;
proc corr data = a;
var y w p v sf;
proc reg data = a;
W_Model: model y = w;
P_Model: model y = p;
V_Model: model y = v;
SF_Model: model y = sf;
Full_Modelmodel: model y = w p v sf;
run;
proc reg data = a;
Foreward: model y = w p v sf /selection = f ;
Backward: model y = w p v sf /selection = b ;
Stepwise: model y = w p v sf /selection = stepwise ;
run;

```

The CORR Procedure

5 Variables: y w p v sf

Simple Statistics

| Variable | N | Mean | Std Dev | Sum | Minimum | Maximum |
|----------|----|---------|---------|-----------|---------|---------|
| y | 20 | 4.01525 | 0.87380 | 80.30500 | 2.33500 | 5.77400 |
| w | 20 | 3.49000 | 0.33545 | 69.80000 | 2.90000 | 4.10000 |
| p | 20 | 4.61100 | 0.94082 | 92.22000 | 2.42000 | 6.12000 |
| v | 20 | 7.59000 | 0.57482 | 151.80000 | 6.70000 | 8.50000 |
| sf | 20 | 6.03955 | 0.58604 | 120.79100 | 4.56400 | 7.02400 |

Pearson Correlation Coefficients, N = 20

Prob > |r| under H0: Rho=0

| | y | w | p | v | sf |
|---|---------|----------|----------|----------|----------|
| y | 1.00000 | 0.04467 | 0.69734 | 0.60634 | 0.84848 |
| | | 0.8517 | 0.0006 | 0.0046 | <.0001 |
| w | 0.04467 | 1.00000 | -0.36286 | -0.04695 | -0.31104 |
| | 0.8517 | | 0.1159 | 0.8442 | 0.1819 |
| p | 0.69734 | -0.36286 | 1.00000 | 0.17218 | 0.87829 |
| | 0.0006 | 0.1159 | | 0.4679 | <.0001 |
| v | 0.60634 | -0.04695 | 0.17218 | 1.00000 | 0.62222 |

0.0046 0.8442 0.4679 0.0034

sf 0.84848 -0.31104 0.87829 0.62222 1.00000
 <.0001 0.1819 <.0001 0.0034
 The SAS System 16:33 Tuesday, May 8, 2007 2

The REG Procedure
 Model: W_Model
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 0.02894 | 0.02894 | 0.04 | 0.8517 |
| Error | 18 | 14.47811 | 0.80434 | | |
| Corrected Total | 19 | 14.50706 | | | |

Root MSE 0.89685 R-Square 0.0020
 Dependent Mean 4.01525 Adj R-Sq -0.0534
 Coeff Var 22.33609

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > t |
|-----------|----|--------------------|----------------|---------|---------|
| Intercept | 1 | 3.60920 | 2.15000 | 1.68 | 0.1105 |
| w | 1 | 0.11635 | 0.61336 | 0.19 | 0.8517 |

The SAS System 16:33 Tuesday, May 8, 2007 3

The REG Procedure
 Model: P_Model
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 7.05445 | 7.05445 | 17.04 | 0.0006 |
| Error | 18 | 7.45260 | 0.41403 | | |
| Corrected Total | 19 | 14.50706 | | | |

Root MSE 0.64345 R-Square 0.4863
 Dependent Mean 4.01525 Adj R-Sq 0.4577
 Coeff Var 16.02526

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > t |
|-----------|----|--------------------|----------------|---------|---------|
| Intercept | 1 | 1.02887 | 0.73766 | 1.39 | 0.1801 |
| p | 1 | 0.64766 | 0.15690 | 4.13 | 0.0006 |

The SAS System 16:33 Tuesday, May 8, 2007 4

The REG Procedure
 Model: V_Model
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 5.33357 | 5.33357 | 10.47 | 0.0046 |
| Error | 18 | 9.17348 | 0.50964 | | |
| Corrected Total | 19 | 14.50706 | | | |

Root MSE 0.71389 R-Square 0.3677
 Dependent Mean 4.01525 Adj R-Sq 0.3325
 Coeff Var 17.77945

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > t |
|-----------|----|--------------------|----------------|---------|---------|
| Intercept | 1 | -2.98059 | 2.16841 | -1.37 | 0.1861 |
| v | 1 | 0.92172 | 0.28492 | 3.24 | 0.0046 |

The SAS System 16:33 Tuesday, May 8, 2007 5

The REG Procedure
 Model: SF_Model
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|--------|----|----------------|-------------|---------|--------|
|--------|----|----------------|-------------|---------|--------|

| | | | | | |
|-----------------|----|----------|----------|-------|--------|
| Model | 1 | 10.44391 | 10.44391 | 46.27 | <.0001 |
| Error | 18 | 4.06314 | 0.22573 | | |
| Corrected Total | 19 | 14.50706 | | | |

| | | | |
|----------------|----------|----------|--------|
| Root MSE | 0.47511 | R-Square | 0.7199 |
| Dependent Mean | 4.01525 | Adj R-Sq | 0.7044 |
| Coeff Var | 11.83266 | | |

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > t |
|-----------|----|--------------------|----------------|---------|---------|
| Intercept | 1 | -3.62542 | 1.12831 | -3.21 | 0.0048 |
| sf | 1 | 1.26511 | 0.18599 | 6.80 | <.0001 |

The SAS System 16:33 Tuesday, May 8, 2007 6

The REG Procedure
 Model: Full_Modelmodel
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 4 | 12.16586 | 3.04146 | 19.49 | <.0001 |
| Error | 15 | 2.34120 | 0.15608 | | |
| Corrected Total | 19 | 14.50706 | | | |

Root MSE 0.39507 R-Square 0.8386
 Dependent Mean 4.01525 Adj R-Sq 0.7956
 Coeff Var 9.83923

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > t |
|-----------|----|--------------------|----------------|---------|---------|
| Intercept | 1 | -7.84293 | 1.69084 | -4.64 | 0.0003 |
| w | 1 | 0.95282 | 0.30057 | 3.17 | 0.0063 |
| p | 1 | 183.21021 | 174.09348 | 1.05 | 0.3093 |
| v | 1 | 183.20576 | 174.01991 | 1.05 | 0.3091 |
| sf | 1 | -368.69985 | 351.65989 | -1.05 | 0.3110 |

The SAS System 16:33 Tuesday, May 8, 2007 7

The REG Procedure
 Model: Forward
 Dependent Variable: y

Forward Selection: Step 1

Variable sf Entered: R-Square = 0.7199 and C(p) = 10.0325

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|--------|----|----------------|-------------|---------|--------|
| Model | 1 | 10.44391 | 10.44391 | 46.27 | <.0001 |
| Error | 18 | 4.06314 | 0.22573 | | |

Corrected Total 19 14.50706

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -3.62542 | 1.12831 | 2.33050 | 10.32 | 0.0048 |
| sf | 1.26511 | 0.18599 | 10.44391 | 46.27 | <.0001 |

Bounds on condition number: 1, 1

Forward Selection: Step 2

Variable w Entered: R-Square = 0.8253 and C(p) = 2.2341

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 2 | 11.97324 | 5.98662 | 40.17 | <.0001 |
| Error | 17 | 2.53382 | 0.14905 | | |
| Corrected Total | 19 | 14.50706 | | | |

The SAS System 16:33 Tuesday, May 8, 2007 8

The REG Procedure
Model: Forward
Dependent Variable: y

Forward Selection: Step 2

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -7.68807 | 1.56499 | 3.59698 | 24.13 | 0.0001 |
| w | 0.88990 | 0.27781 | 1.52933 | 10.26 | 0.0052 |
| sf | 1.42354 | 0.15902 | 11.94430 | 80.14 | <.0001 |

Bounds on condition number: 1.1071, 4.4284

No other variable met the 0.5000 significance level for entry into the model.

Summary of Forward Selection

| Step | Variable Entered | Number Vars In | Partial R-Square | Model R-Square | C(p) | F Value | Pr > F |
|------|------------------|----------------|------------------|----------------|---------|---------|--------|
| 1 | sf | 1 | 0.7199 | 0.7199 | 10.0325 | 46.27 | <.0001 |
| 2 | w | 2 | 0.1054 | 0.8253 | 2.2341 | 10.26 | 0.0052 |

The SAS System 16:33 Tuesday, May 8, 2007 9

The REG Procedure
Model: Backward
Dependent Variable: y

Backward Elimination: Step 0

All Variables Entered: R-Square = 0.8386 and C(p) = 5.0000

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 4 | 12.16586 | 3.04146 | 19.49 | <.0001 |
| Error | 15 | 2.34120 | 0.15608 | | |
| Corrected Total | 19 | 14.50706 | | | |

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -7.84293 | 1.69084 | 3.35813 | 21.52 | 0.0003 |
| w | 0.95282 | 0.30057 | 1.56845 | 10.05 | 0.0063 |
| p | 183.21021 | 174.09348 | 0.17285 | 1.11 | 0.3093 |
| v | 183.20576 | 174.01991 | 0.17299 | 1.11 | 0.3091 |
| sf | -368.69985 | 351.65989 | 0.17157 | 1.10 | 0.3110 |

Bounds on condition number: 5170211, 38616082

Backward Elimination: Step 1

Variable sf Removed: R-Square = 0.8268 and C(p) = 4.0993

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 3 | 11.99428 | 3.99809 | 25.46 | <.0001 |
| Error | 16 | 2.51277 | 0.15705 | | |
| Corrected Total | 19 | 14.50706 | | | |

The SAS System 16:33 Tuesday, May 8, 2007 10

The REG Procedure
 Model: Backward
 Dependent Variable: y

Backward Elimination: Step 1

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -7.88092 | 1.69569 | 3.39230 | 21.60 | 0.0003 |
| w | 0.86995 | 0.29089 | 1.40462 | 8.94 | 0.0086 |
| p | 0.68093 | 0.10517 | 6.58295 | 41.92 | <.0001 |
| v | 0.75366 | 0.16058 | 3.45922 | 22.03 | 0.0002 |

Bounds on condition number: 1.1845, 10.102

All variables left in the model are significant at the 0.1000 level.

Summary of Backward Elimination

| Step | Variable Removed | Number Vars In | Partial R-Square | Model R-Square | C(p) | F Value | Pr > F |
|------|------------------|----------------|------------------|----------------|------|---------|--------|
|------|------------------|----------------|------------------|----------------|------|---------|--------|

| | | | | | | | |
|---|----|---|--------|--------|--------|------|--------|
| 1 | sf | 3 | 0.0118 | 0.8268 | 4.0993 | 1.10 | 0.3110 |
|---|----|---|--------|--------|--------|------|--------|

The SAS System 16:33 Tuesday, May 8, 2007 11

The REG Procedure
 Model: Stepwise
 Dependent Variable: y

Stepwise Selection: Step 1

Variable sf Entered: R-Square = 0.7199 and C(p) = 10.0325

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 10.44391 | 10.44391 | 46.27 | <.0001 |
| Error | 18 | 4.06314 | 0.22573 | | |
| Corrected Total | 19 | 14.50706 | | | |

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -3.62542 | 1.12831 | 2.33050 | 10.32 | 0.0048 |
| sf | 1.26511 | 0.18599 | 10.44391 | 46.27 | <.0001 |

Bounds on condition number: 1, 1

Stepwise Selection: Step 2

Variable w Entered: R-Square = 0.8253 and C(p) = 2.2341

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 2 | 11.97324 | 5.98662 | 40.17 | <.0001 |
| Error | 17 | 2.53382 | 0.14905 | | |
| Corrected Total | 19 | 14.50706 | | | |

The SAS System 16:33 Tuesday, May 8, 2007 12

The REG Procedure
Model: Stepwise
Dependent Variable: y

Stepwise Selection: Step 2

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -7.68807 | 1.56499 | 3.59698 | 24.13 | 0.0001 |
| w | 0.88990 | 0.27781 | 1.52933 | 10.26 | 0.0052 |
| sf | 1.42354 | 0.15902 | 11.94430 | 80.14 | <.0001 |

Bounds on condition number: 1.1071, 4.4284

All variables left in the model are significant at the 0.1500 level.

No other variable met the 0.1500 significance level for entry into the model.

Summary of Stepwise Selection

| Step | Variable Entered | Variable Removed | Number Vars In | Partial R-Square | Model R-Square | C(p) | F Value | Pr > F |
|------|------------------|------------------|----------------|------------------|----------------|---------|---------|--------|
| 1 | sf | | 1 | 0.7199 | 0.7199 | 10.0325 | 46.27 | <.0001 |
| 2 | w | | 2 | 0.1054 | 0.8253 | 2.2341 | 10.26 | 0.0052 |

The SAS System 16:33 Tuesday, May 8, 2007 1

The CORR Procedure

5 Variables: y w p v sf

Simple Statistics

| Variable | N | Mean | Std Dev | Sum | Minimum | Maximum |
|----------|----|---------|---------|-----------|---------|---------|
| y | 20 | 4.01525 | 0.87380 | 80.30500 | 2.33500 | 5.77400 |
| w | 20 | 3.49000 | 0.33545 | 69.80000 | 2.90000 | 4.10000 |
| p | 20 | 4.61100 | 0.94082 | 92.22000 | 2.42000 | 6.12000 |
| v | 20 | 7.59000 | 0.57482 | 151.80000 | 6.70000 | 8.50000 |
| sf | 20 | 6.03955 | 0.58604 | 120.79100 | 4.56400 | 7.02400 |

Pearson Correlation Coefficients, N = 20

Prob > |r| under H0: Rho=0

| | y | w | p | v | sf |
|----|---------|----------|----------|----------|----------|
| y | 1.00000 | 0.04467 | 0.69734 | 0.60634 | 0.84848 |
| | | 0.8517 | 0.0006 | 0.0046 | <.0001 |
| w | 0.04467 | 1.00000 | -0.36286 | -0.04695 | -0.31104 |
| | 0.8517 | | 0.1159 | 0.8442 | 0.1819 |
| p | 0.69734 | -0.36286 | 1.00000 | 0.17218 | 0.87829 |
| | 0.0006 | 0.1159 | | 0.4679 | <.0001 |
| v | 0.60634 | -0.04695 | 0.17218 | 1.00000 | 0.62222 |
| | 0.0046 | 0.8442 | 0.4679 | | 0.0034 |
| sf | 0.84848 | -0.31104 | 0.87829 | 0.62222 | 1.00000 |
| | <.0001 | 0.1819 | <.0001 | 0.0034 | |

The SAS System 16:33 Tuesday, May 8, 2007 2

The REG Procedure
 Model: W_Model
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|--------|----|----------------|-------------|---------|--------|
| Model | 1 | 0.02894 | 0.02894 | 0.04 | 0.8517 |

| | | | |
|-----------------|----|----------|---------|
| Error | 18 | 14.47811 | 0.80434 |
| Corrected Total | 19 | 14.50706 | |

| | | | |
|----------------|----------|----------|---------|
| Root MSE | 0.89685 | R-Square | 0.0020 |
| Dependent Mean | 4.01525 | Adj R-Sq | -0.0534 |
| Coeff Var | 22.33609 | | |

Parameter Estimates

| Variable | Parameter | Standard | | | |
|-----------|-----------|----------|---------|---------|---------|
| | DF | Estimate | Error | t Value | Pr > t |
| Intercept | 1 | 3.60920 | 2.15000 | 1.68 | 0.1105 |
| w | 1 | 0.11635 | 0.61336 | 0.19 | 0.8517 |

The SAS System 16:33 Tuesday, May 8, 2007 3

The REG Procedure
 Model: P_Model
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 7.05445 | 7.05445 | 17.04 | 0.0006 |
| Error | 18 | 7.45260 | 0.41403 | | |
| Corrected Total | 19 | 14.50706 | | | |

| | | | |
|----------|---------|----------|--------|
| Root MSE | 0.64345 | R-Square | 0.4863 |
|----------|---------|----------|--------|

Dependent Mean 4.01525 Adj R-Sq 0.4577
Coeff Var 16.02526

Parameter Estimates

| Variable | Parameter DF | Estimate | Standard Error | t Value | Pr > t |
|-----------|--------------|----------|----------------|---------|---------|
| Intercept | 1 | 1.02887 | 0.73766 | 1.39 | 0.1801 |
| p | 1 | 0.64766 | 0.15690 | 4.13 | 0.0006 |

The SAS System 16:33 Tuesday, May 8, 2007 4

The REG Procedure
Model: V_Model
Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 5.33357 | 5.33357 | 10.47 | 0.0046 |
| Error | 18 | 9.17348 | 0.50964 | | |
| Corrected Total | 19 | 14.50706 | | | |

Root MSE 0.71389 R-Square 0.3677
Dependent Mean 4.01525 Adj R-Sq 0.3325
Coeff Var 17.77945

Parameter Estimates

| Variable | Parameter DF | Estimate | Standard Error | t Value | Pr > t |
|-----------|--------------|----------|----------------|---------|---------|
| Intercept | 1 | -2.98059 | 2.16841 | -1.37 | 0.1861 |
| v | 1 | 0.92172 | 0.28492 | 3.24 | 0.0046 |

The SAS System 16:33 Tuesday, May 8, 2007 5

The REG Procedure
 Model: SF_Model
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 10.44391 | 10.44391 | 46.27 | <.0001 |
| Error | 18 | 4.06314 | 0.22573 | | |
| Corrected Total | 19 | 14.50706 | | | |

Root MSE 0.47511 R-Square 0.7199
 Dependent Mean 4.01525 Adj R-Sq 0.7044
 Coeff Var 11.83266

Parameter Estimates

| Variable | Parameter DF | Estimate | Standard Error | t Value | Pr > t |
|-----------|--------------|----------|----------------|---------|---------|
| Intercept | 1 | -3.62542 | 1.12831 | -3.21 | 0.0048 |

sf 1 1.26511 0.18599 6.80 <.0001
 The SAS System 16:33 Tuesday, May 8, 2007 6

The REG Procedure
 Model: Full_Modelmodel
 Dependent Variable: y

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 4 | 12.16586 | 3.04146 | 19.49 | <.0001 |
| Error | 15 | 2.34120 | 0.15608 | | |
| Corrected Total | 19 | 14.50706 | | | |

Root MSE 0.39507 R-Square 0.8386
 Dependent Mean 4.01525 Adj R-Sq 0.7956
 Coeff Var 9.83923

Parameter Estimates

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > t |
|-----------|----|--------------------|----------------|---------|---------|
| Intercept | 1 | -7.84293 | 1.69084 | -4.64 | 0.0003 |
| w | 1 | 0.95282 | 0.30057 | 3.17 | 0.0063 |
| p | 1 | 183.21021 | 174.09348 | 1.05 | 0.3093 |
| v | 1 | 183.20576 | 174.01991 | 1.05 | 0.3091 |
| sf | 1 | -368.69985 | 351.65989 | -1.05 | 0.3110 |

The SAS System 16:33 Tuesday, May 8, 2007 7

The REG Procedure
Model: Forward
Dependent Variable: y

Forward Selection: Step 1

Variable sf Entered: R-Square = 0.7199 and C(p) = 10.0325

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 10.44391 | 10.44391 | 46.27 | <.0001 |
| Error | 18 | 4.06314 | 0.22573 | | |
| Corrected Total | 19 | 14.50706 | | | |

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -3.62542 | 1.12831 | 2.33050 | 10.32 | 0.0048 |
| sf | 1.26511 | 0.18599 | 10.44391 | 46.27 | <.0001 |

Bounds on condition number: 1, 1

Forward Selection: Step 2

Variable w Entered: R-Square = 0.8253 and C(p) = 2.2341

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 2 | 11.97324 | 5.98662 | 40.17 | <.0001 |
| Error | 17 | 2.53382 | 0.14905 | | |
| Corrected Total | 19 | 14.50706 | | | |

The SAS System 16:33 Tuesday, May 8, 2007 8

The REG Procedure
Model: Forward
Dependent Variable: y

Forward Selection: Step 2

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -7.68807 | 1.56499 | 3.59698 | 24.13 | 0.0001 |
| w | 0.88990 | 0.27781 | 1.52933 | 10.26 | 0.0052 |
| sf | 1.42354 | 0.15902 | 11.94430 | 80.14 | <.0001 |

Bounds on condition number: 1.1071, 4.4284

No other variable met the 0.5000 significance level for entry into the model.

Summary of Forward Selection

| Step | Variable Entered | Number Vars In | Partial R-Square | Model R-Square | C(p) | F Value | Pr > F |
|------|------------------|----------------|------------------|----------------|---------|---------|--------|
| 1 | sf | 1 | 0.7199 | 0.7199 | 10.0325 | 46.27 | <.0001 |
| 2 | w | 2 | 0.1054 | 0.8253 | 2.2341 | 10.26 | 0.0052 |

The SAS System 16:33 Tuesday, May 8, 2007 9

The REG Procedure
 Model: Backward
 Dependent Variable: y

Backward Elimination: Step 0

All Variables Entered: R-Square = 0.8386 and C(p) = 5.0000

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 4 | 12.16586 | 3.04146 | 19.49 | <.0001 |
| Error | 15 | 2.34120 | 0.15608 | | |
| Corrected Total | 19 | 14.50706 | | | |

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|----------|--------------------|----------------|------------|---------|--------|
|----------|--------------------|----------------|------------|---------|--------|

| | | | | | |
|-----------|------------|-----------|---------|-------|--------|
| Intercept | -7.84293 | 1.69084 | 3.35813 | 21.52 | 0.0003 |
| w | 0.95282 | 0.30057 | 1.56845 | 10.05 | 0.0063 |
| p | 183.21021 | 174.09348 | 0.17285 | 1.11 | 0.3093 |
| v | 183.20576 | 174.01991 | 0.17299 | 1.11 | 0.3091 |
| sf | -368.69985 | 351.65989 | 0.17157 | 1.10 | 0.3110 |

Bounds on condition number: 5170211, 38616082

Backward Elimination: Step 1

Variable sf Removed: R-Square = 0.8268 and C(p) = 4.0993

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 3 | 11.99428 | 3.99809 | 25.46 | <.0001 |
| Error | 16 | 2.51277 | 0.15705 | | |
| Corrected Total | 19 | 14.50706 | | | |

The SAS System 16:33 Tuesday, May 8, 2007 10

The REG Procedure
 Model: Backward
 Dependent Variable: y

Backward Elimination: Step 1

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -7.88092 | 1.69569 | 3.39230 | 21.60 | 0.0003 |
| w | 0.86995 | 0.29089 | 1.40462 | 8.94 | 0.0086 |
| p | 0.68093 | 0.10517 | 6.58295 | 41.92 | <.0001 |
| v | 0.75366 | 0.16058 | 3.45922 | 22.03 | 0.0002 |

Bounds on condition number: 1.1845, 10.102

All variables left in the model are significant at the 0.1000 level.

Summary of Backward Elimination

| Step | Variable Removed | Number Vars In | Partial R-Square | Model R-Square | C(p) | F Value | Pr > F |
|------|------------------|----------------|------------------|----------------|--------|---------|--------|
| 1 | sf | 3 | 0.0118 | 0.8268 | 4.0993 | 1.10 | 0.3110 |

The SAS System 16:33 Tuesday, May 8, 2007 11

The REG Procedure
 Model: Stepwise
 Dependent Variable: y

Stepwise Selection: Step 1

Variable sf Entered: R-Square = 0.7199 and C(p) = 10.0325

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 1 | 10.44391 | 10.44391 | 46.27 | <.0001 |
| Error | 18 | 4.06314 | 0.22573 | | |
| Corrected Total | 19 | 14.50706 | | | |

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -3.62542 | 1.12831 | 2.33050 | 10.32 | 0.0048 |
| sf | 1.26511 | 0.18599 | 10.44391 | 46.27 | <.0001 |

Bounds on condition number: 1, 1

Stepwise Selection: Step 2

Variable w Entered: R-Square = 0.8253 and C(p) = 2.2341

Analysis of Variance

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|-----------------|----|----------------|-------------|---------|--------|
| Model | 2 | 11.97324 | 5.98662 | 40.17 | <.0001 |
| Error | 17 | 2.53382 | 0.14905 | | |
| Corrected Total | 19 | 14.50706 | | | |

The SAS System 16:33 Tuesday, May 8, 2007 12

The REG Procedure
Model: Stepwise
Dependent Variable: y

Stepwise Selection: Step 2

| Variable | Parameter Estimate | Standard Error | Type II SS | F Value | Pr > F |
|-----------|--------------------|----------------|------------|---------|--------|
| Intercept | -7.68807 | 1.56499 | 3.59698 | 24.13 | 0.0001 |
| w | 0.88990 | 0.27781 | 1.52933 | 10.26 | 0.0052 |
| sf | 1.42354 | 0.15902 | 11.94430 | 80.14 | <.0001 |

Bounds on condition number: 1.1071, 4.4284

All variables left in the model are significant at the 0.1500 level.

No other variable met the 0.1500 significance level for entry into the model.

Summary of Stepwise Selection

| Step | Variable Entered | Variable Removed | Number Vars In | Partial R-Square | Model R-Square | C(p) | F Value | Pr > F |
|------|------------------|------------------|----------------|------------------|----------------|---------|---------|--------|
| 1 | sf | | 1 | 0.7199 | 0.7199 | 10.0325 | 46.27 | <.0001 |

| | | | | | | | |
|---|---|---|--------|--------|--------|-------|--------|
| 2 | w | 2 | 0.1054 | 0.8253 | 2.2341 | 10.26 | 0.0052 |
|---|---|---|--------|--------|--------|-------|--------|