QUESTION GROUP A

SAS code

```
data A;
 INPUT Temp Salinity;
 DATALINES;
 . . . data goes here . . .
;

PROC MEANS DATA=A; RUN;

PROC REG DATA=A;
 MODEL Temp = Salinity;
 RUN;
```

The MEANS Procedure

Variable	N	Mean	Std Dev	Minimum	Maximum
Temp	250	11.2728936	1.9963491	5.3396660	16.7436210
Salinity	250	33.6653680	0.3495229	32.6050000	35.3900000

The REG Procedure
Model: MODEL1
Dependent Variable: Temp

Number of Observations Read	250
Number of Observations Used	250

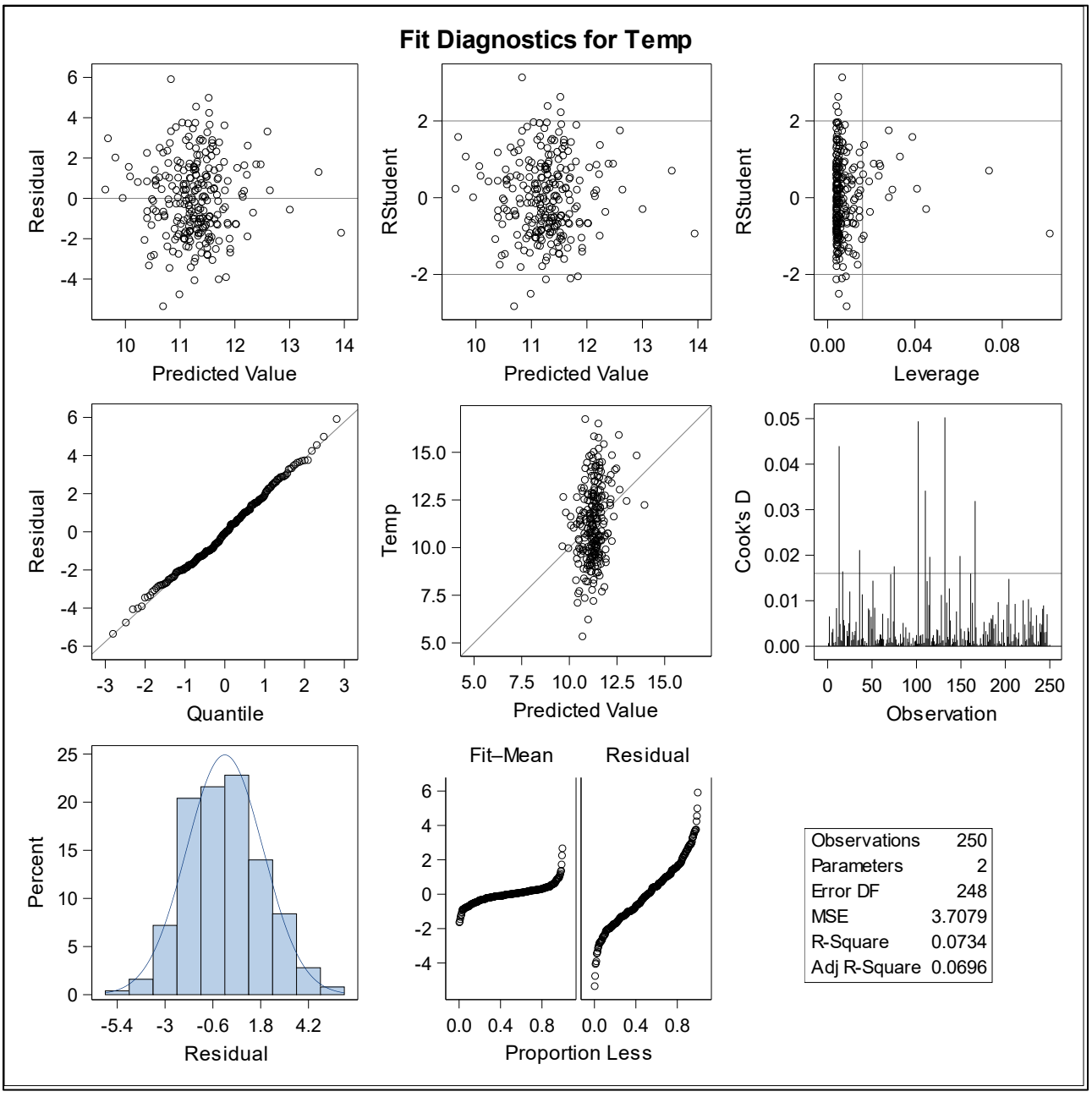
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	1	72.79560	72.79560	19.63	<.0001
Error	248	919.57139	3.70795		
Corrected Total	249	992.36700			

Root MSE	1.92560	**R-Square**	0.0734
Dependent Mean	11.27289	**Adj R-Sq**	0.0696
Coeff Var	17.08172		

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	1	-40.80586	11.75434	-3.47	0.0006
Salinity	1	1.54695	0.34913	4.43	<.0001

QUESTION GROUP A

The REG Procedure
Model: MODEL1
Dependent Variable: Temp



QUESTION GROUP B: FIRST DATASET

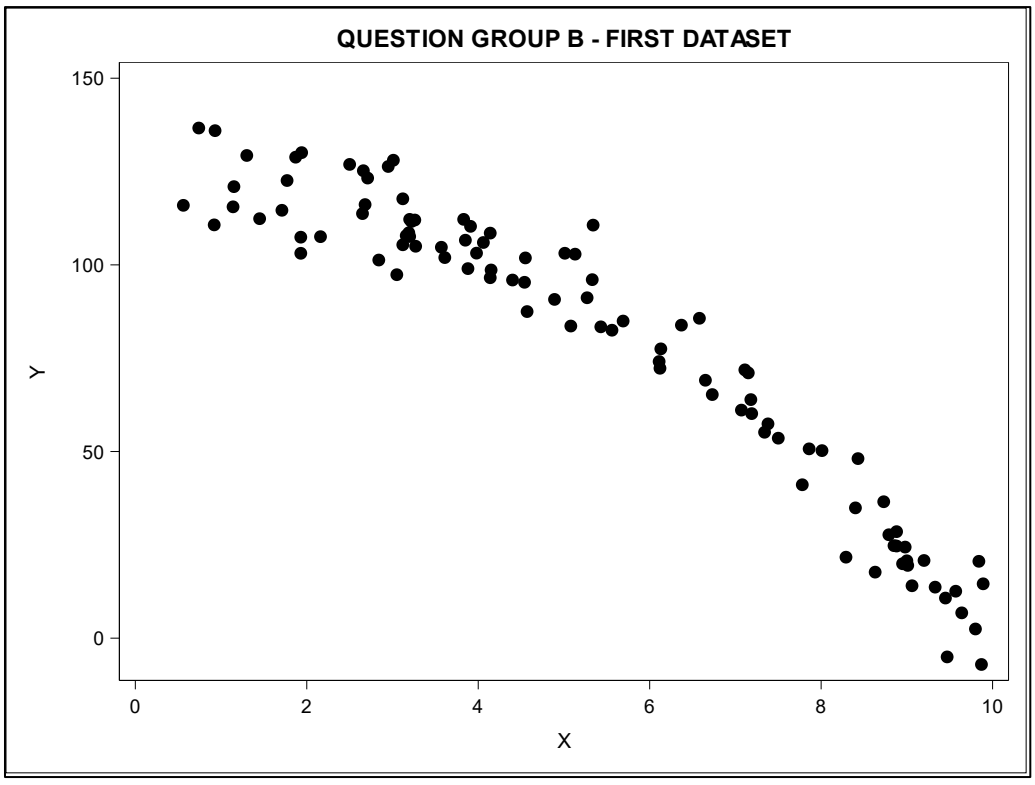
SAS code

```
DATA B1;
 INPUT X Y;
 DATALINES;
 . . . data goes here . . .
;
PROC SGPLOT DATA=B1;
 SCATTER X=X Y=Y / MARKERATTRS=(SYMBOL=CIRCLEFILLED COLOR=black SIZE=10);
RUN;
PROC REG DATA=B1;
 MODEL Y = X;
 RUN;

DATA B2;
 INPUT X Y;
 DATALINES;
 . . . data goes here . . .
;

PROC SGPLOT DATA=B2;
 SCATTER X=X Y=Y / MARKERATTRS=(SYMBOL=CIRCLEFILLED COLOR=black SIZE=10);
RUN;

PROC REG DATA=B2;
 MODEL Y = X;
 RUN;
```



The REG Procedure
Model: MODEL1
Dependent Variable: Y

Number of Observations Read	100
Number of Observations Used	100

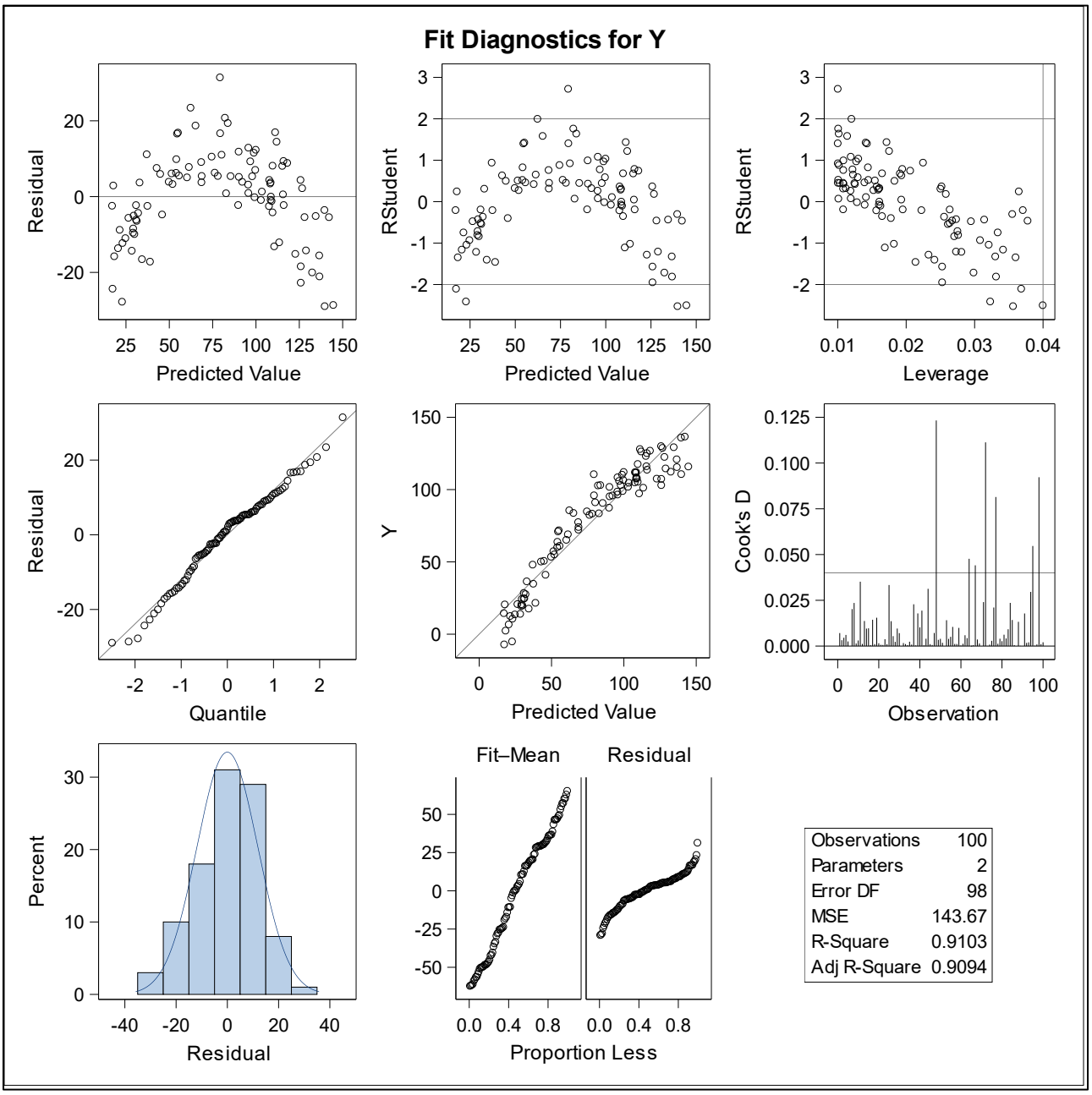
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	1	142892	142892	994.58	<.0001
Error	98	14080	143.67026		
Corrected Total	99	156972			

Root MSE	11.98625	**R-Square**	0.9103
Dependent Mean	79.12542	**Adj R-Sq**	0.9094
Coeff Var	15.14842		

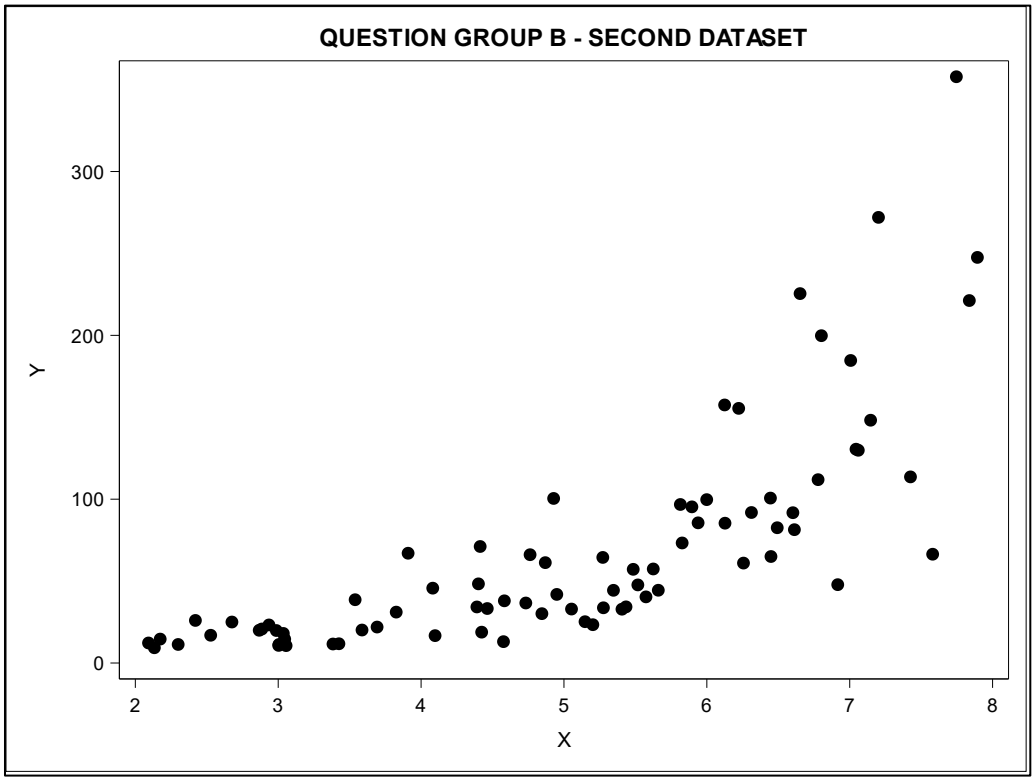
Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	1	152.19370	2.60859	58.34	<.0001
X	1	-13.67296	0.43355	-31.54	<.0001

QUESTION GROUP B: FIRST DATASET

The REG Procedure
Model: MODEL1
Dependent Variable: Y



QUESTION GROUP B: SECOND DATASET



The REG Procedure
Model: MODEL1
Dependent Variable: Y

Number of Observations Read	80
Number of Observations Used	80

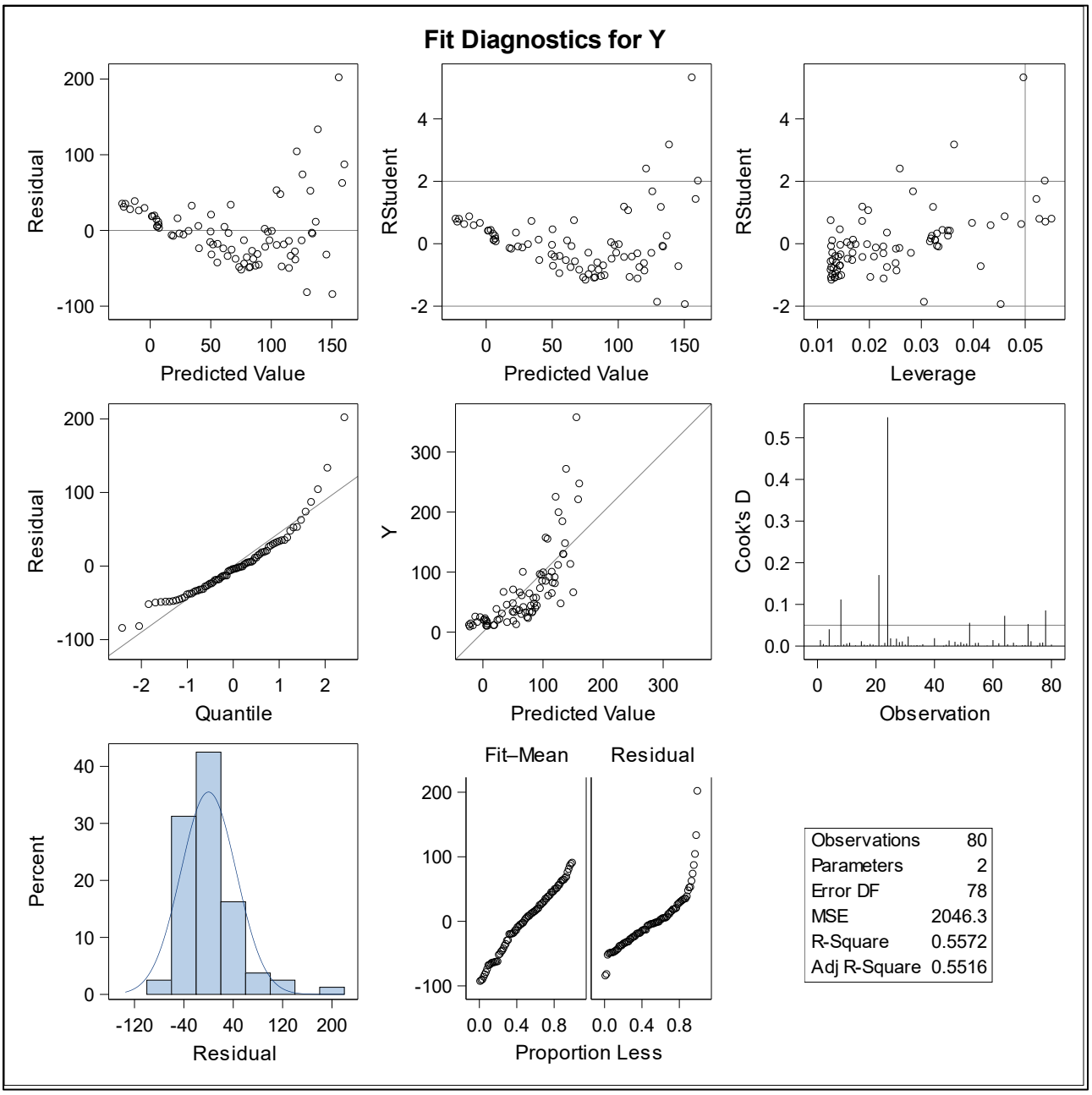
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	1	200880	200880	98.17	<.0001
Error	78	159612	2046.31216		
Corrected Total	79	360492			

Root MSE	45.23618	**R-Square**	0.5572
Dependent Mean	69.25856	**Adj R-Sq**	0.5516
Coeff Var	65.31493		

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	1	-89.38902	16.79194	-5.32	<.0001
X	1	31.63202	3.19260	9.91	<.0001

QUESTION GROUP B: SECOND DATASET

The REG Procedure
Model: MODEL1
Dependent Variable: Y

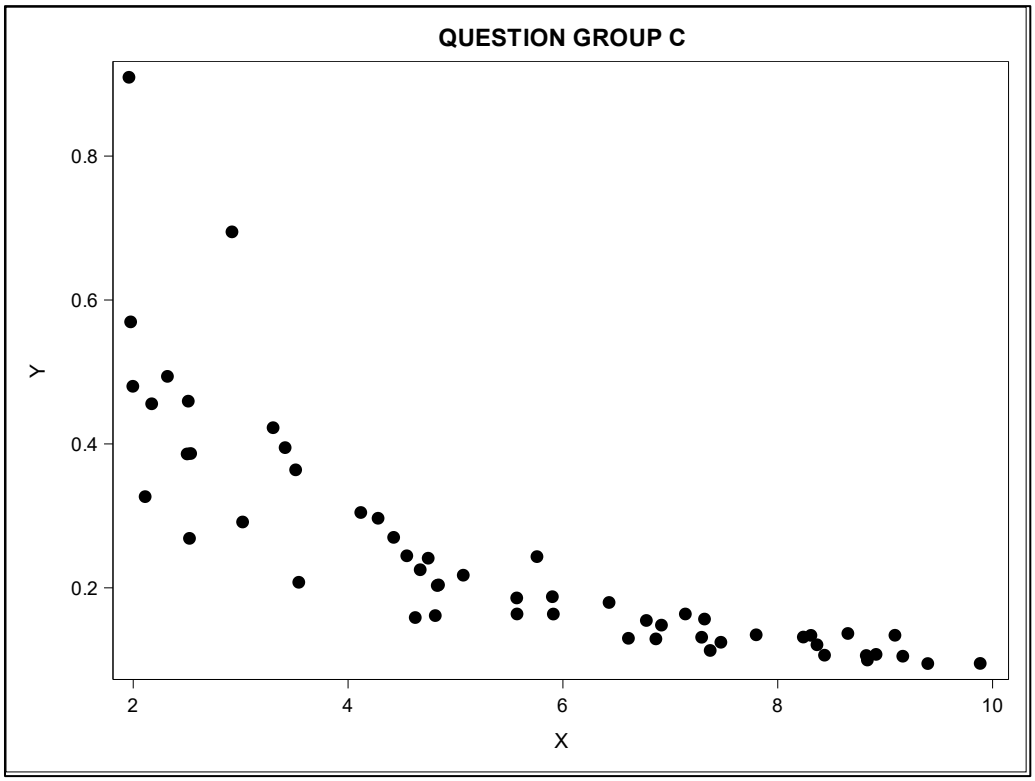


SAS code

```
DATA C;
 INPUT ID X Y;
 overY = 1/Y;
 DATALINES;
 0  2.200000 .
 1  2.512264 0.45942590
 2  6.429708 0.17965273
 3  5.901675 0.18768741
 4  4.118251 0.30470246
 . . . more data goes here . . .
;

PROC SGPLOT;
 SCATTER X=X Y=Y / MARKERATTRS=(SYMBOL=CIRCLEFILLED COLOR=black SIZE=10);
RUN;

PROC REG DATA=C;
 "Using original Y": MODEL Y = X     / P CLM CLI;
 "Using 1 over Y"  : MODEL overY = X / P CLM CLI;
RUN;
```



QUESTION GROUP C: Model "Using original Y"

The REG Procedure
Model: "Using original Y"

Number of Observations Read	56
Number of Observations Used	55
Number of Observations with Missing Values	1

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.92413	0.92413	93.23	<.0001
Error	53	0.52536	0.00991		
Corrected Total	54	1.44949			

Root MSE	0.09956	**R-Square**	0.6376
Dependent Mean	0.24582	**Adj R-Sq**	0.6307
Coeff Var	40.50207		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.54936	0.03418	16.07	<.0001
X	1	-0.05454	0.00565	-9.66	<.0001

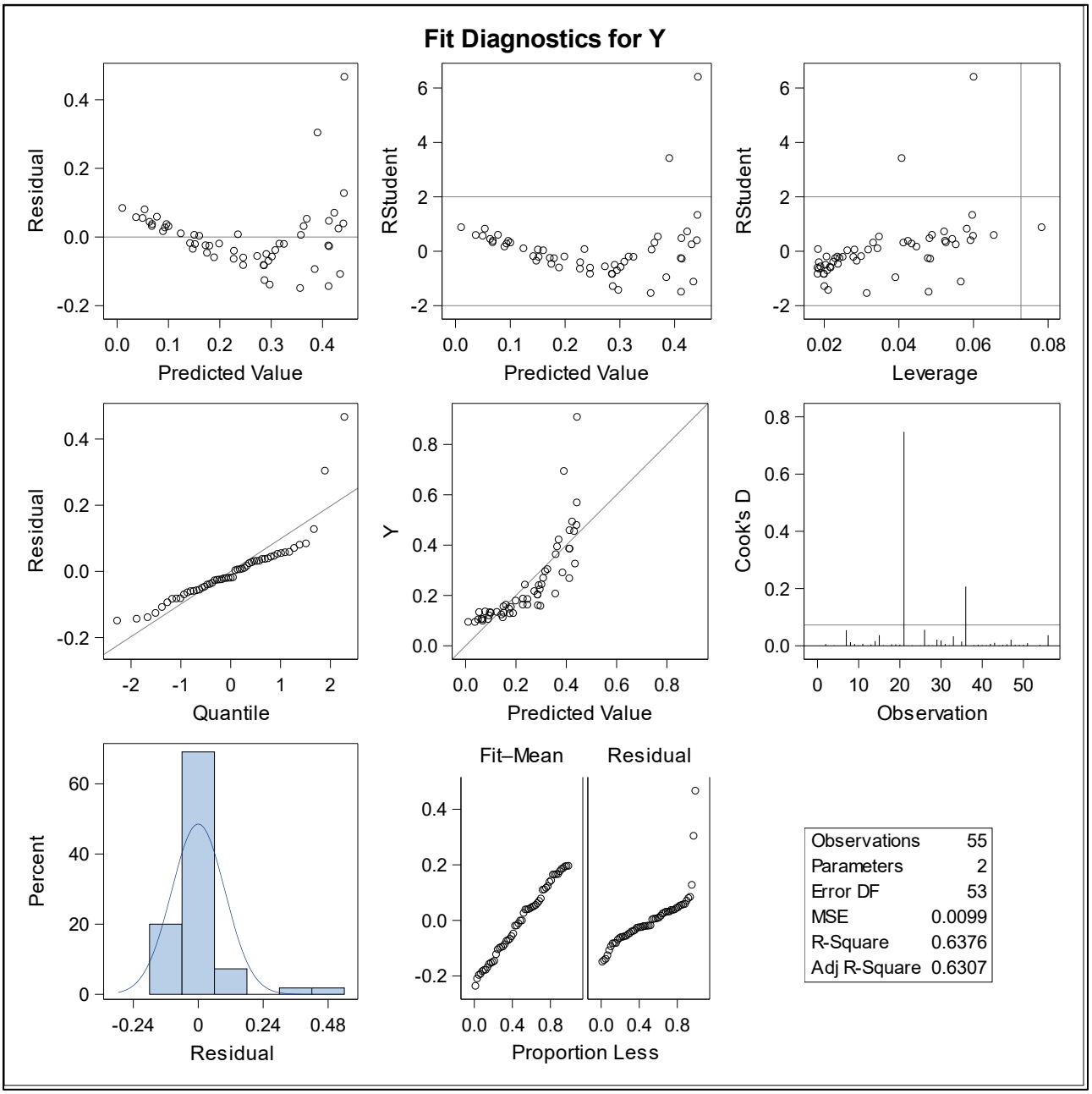
The REG Procedure
Model: "Using original Y"

Output Statistics								
Obs	Dependent Variable	Predicted Value	Std Error Mean Predict	95% CL Mean		95% CL Predict		Residual
1	.	0.4294	0.0233	0.3827	0.4760	0.2243	0.6344	.
2	0.4594	0.4123	0.0219	0.3685	0.4562	0.2079	0.6168	0.0471
3	0.1797	0.1987	0.0143	0.1700	0.2273	-0.0031	0.4004	-0.0190
4	0.1877	0.2275	0.0136	0.2003	0.2547	0.0259	0.4290	-0.0398
5	0.3047	0.3247	0.0157	0.2932	0.3563	0.1226	0.5269	-0.0200
6	0.1244	0.1419	0.0172	0.1074	0.1764	-0.0607	0.3446	-0.0175
7	0.2688	0.4117	0.0218	0.3680	0.4554	0.2073	0.6161	-0.1430
8	0.0948	0.0369	0.0255	-0.0142	0.0879	-0.1693	0.2430	0.0579
9	0.1075	0.0631	0.0232	0.0166	0.1096	-0.1419	0.2682	0.0444
10	0.2701	0.3080	0.0149	0.2782	0.3379	0.1061	0.5100	-0.0379
11	0.2032	0.2859	0.0141	0.2577	0.3141	0.0842	0.4876	-0.0827
12	0.1566	0.1502	0.0167	0.1168	0.1837	-0.0523	0.3527	0.0064
13	0.1059	0.0681	0.0228	0.0224	0.1138	-0.1368	0.2729	0.0379
14	0.1614	0.2869	0.0141	0.2587	0.3152	0.0852	0.4886	-0.1255
15	0.2077	0.3562	0.0176	0.3208	0.3916	0.1534	0.5590	-0.1485
16	0.3861	0.4129	0.0219	0.3690	0.4568	0.2084	0.6174	-0.0268
17	0.2434	0.2353	0.0135	0.2083	0.2623	0.0338	0.4368	0.0081
18	0.4801	0.4405	0.0242	0.3919	0.4891	0.2350	0.6460	0.0396
19	0.2252	0.2946	0.0143	0.2658	0.3233	0.0928	0.4963	-0.0694
	. . . some rows have been removed . . .							
42	0.2041	0.2853	0.0140	0.2571	0.3134	0.0836	0.4869	-0.0812
43	0.1050	0.0495	0.0244	0.0007	0.0984	-0.1560	0.2551	0.0554
44	0.1637	0.1599	0.0161	0.1276	0.1922	-0.0423	0.3622	0.0037
45	0.2176	0.2727	0.0137	0.2452	0.3002	0.0711	0.4743	-0.0551
46	0.4225	0.3693	0.0185	0.3321	0.4064	0.1661	0.5724	0.0533
47	0.1587	0.2971	0.0144	0.2681	0.3260	0.0953	0.4989	-0.1384
48	0.0997	0.0675	0.0228	0.0217	0.1133	-0.1374	0.2724	0.0322
49	0.1860	0.2456	0.0134	0.2186	0.2725	0.0441	0.4471	-0.0596
50	0.1339	0.0962	0.0205	0.0551	0.1373	-0.1077	0.3001	0.0378
51	0.1366	0.0774	0.0220	0.0333	0.1216	-0.1271	0.2819	0.0592
52	0.1347	0.1240	0.0184	0.0870	0.1609	-0.0791	0.3271	0.0108
53	0.2967	0.3160	0.0153	0.2853	0.3466	0.1139	0.5180	-0.0193
54	0.2445	0.3014	0.0146	0.2721	0.3307	0.0995	0.5032	-0.0568
55	0.1064	0.0893	0.0210	0.0471	0.1315	-0.1148	0.2934	0.0171
56	0.3267	0.4342	0.0237	0.3867	0.4817	0.2290	0.6395	-0.1075

Sum of Residuals	0
Sum of Squared Residuals	0.52536
Predicted Residual SS (PRESS)	0.57945

QUESTION GROUP C: Model "Using original Y"

The REG Procedure
Model: "Using original Y"



QUESTION GROUP C: Model "Using 1 over Y"

The REG Procedure
Model: "Using 1 over Y"

Number of Observations Read	56
Number of Observations Used	55
Number of Observations with Missing Values	1

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	1	332.94554	332.94554	465.25	<.0001
Error	53	37.92844	0.71563		
Corrected Total	54	370.87399			

Root MSE	0.84595	**R-Square**	0.8977
Dependent Mean	5.51188	**Adj R-Sq**	0.8958
Coeff Var	15.34776		

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	1	-0.24960	0.29045	-0.86	0.3940
X	1	1.03525	0.04800	21.57	<.0001

QUESTION GROUP C: Model "Using 1 over Y"

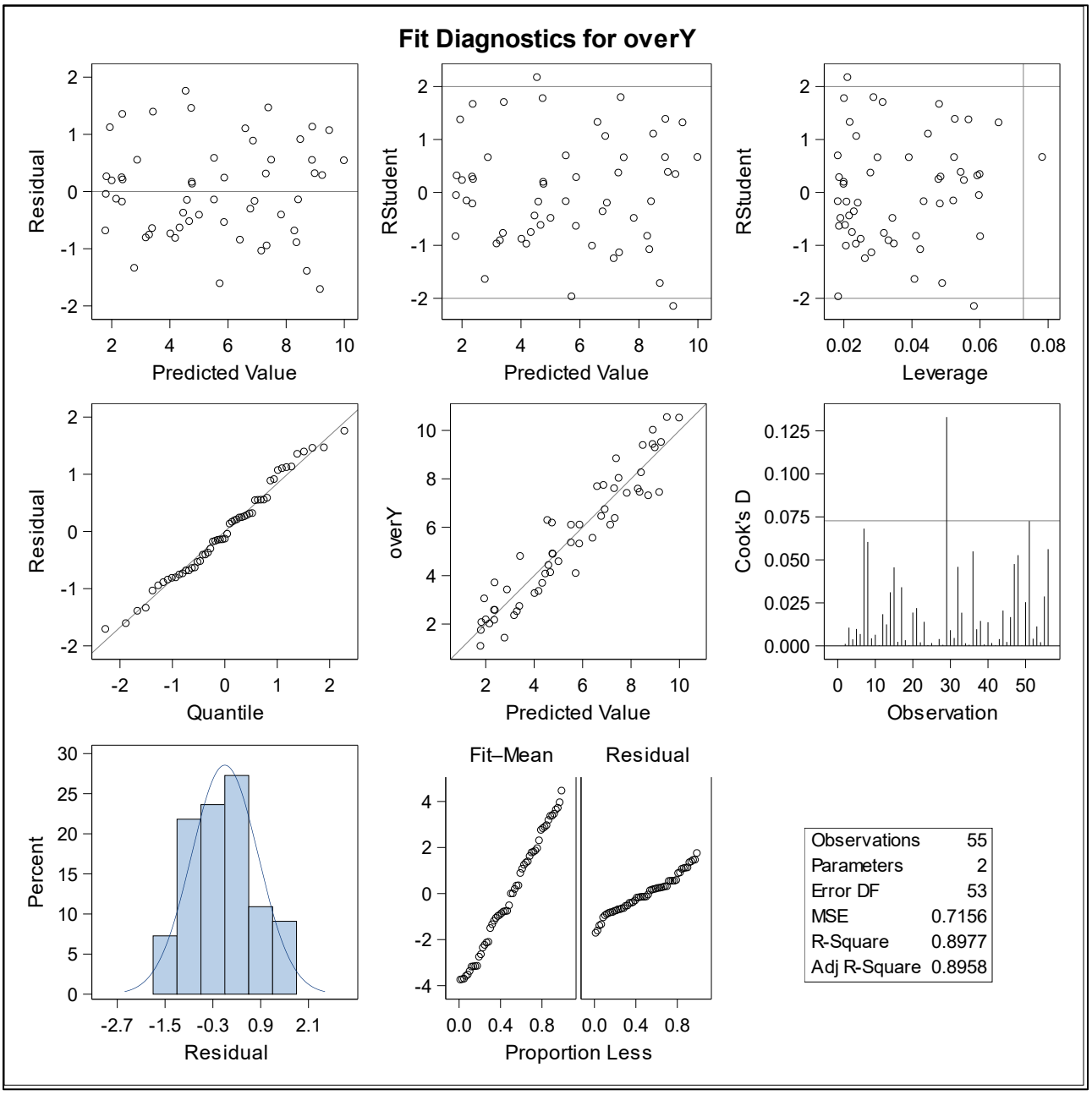
The REG Procedure
Model: "Using 1 over Y"

Output Statistics								
Obs	Dependent Variable	Predicted Value	Std Error Mean Predict	95% CL Mean		95% CL Predict		Residual
1	.	2.0280	0.1977	1.6313	2.4246	0.2855	3.7704	.
2	2.18	2.3512	0.1857	1.9788	2.7237	0.6141	4.0884	-0.1746
3	5.57	6.4068	0.1214	6.1633	6.6502	4.6926	8.1209	-0.8405
4	5.33	5.8601	0.1152	5.6290	6.0912	4.1477	7.5725	-0.5321
5	3.28	4.0138	0.1335	3.7460	4.2817	2.2960	5.7316	-0.7319
6	8.04	7.4841	0.1462	7.1909	7.7773	5.7622	9.2060	0.5568
7	3.72	2.3630	0.1853	1.9914	2.7346	0.6261	4.1000	1.3578
8	10.55	9.4783	0.2164	9.0443	9.9123	7.7269	11.2297	1.0745
9	9.30	8.9798	0.1971	8.5844	9.3752	7.2376	10.7221	0.3214
10	3.70	4.3308	0.1265	4.0770	4.5845	2.6151	6.0464	-0.6288
11	4.92	4.7508	0.1194	4.5113	4.9902	3.0372	6.4643	0.1697
12	6.39	7.3265	0.1417	7.0422	7.6108	5.6061	9.0469	-0.9415
13	9.44	8.8856	0.1936	8.4973	9.2739	7.1450	10.6262	0.5534
14	6.19	4.7318	0.1197	4.4918	4.9718	3.0181	6.4455	1.4627
15	4.81	3.4163	0.1498	3.1158	3.7169	1.6932	5.1395	1.3976
16	2.59	2.3404	0.1861	1.9671	2.7136	0.6031	4.0777	0.2497
17	4.11	5.7118	0.1144	5.4823	5.9414	3.9996	7.4240	-1.6029
18	2.08	1.8169	0.2058	1.4041	2.2297	0.0706	3.5631	0.2660
19	4.44	4.5865	0.1219	4.3420	4.8309	2.8722	6.3007	-0.1452
20	. . . some rows have been removed . . .							
42	4.90	4.7630	0.1192	4.5238	5.0022	3.0495	6.4765	0.1378
43	9.53	9.2374	0.2070	8.8222	9.6526	7.4906	10.9842	0.2883
44	6.11	7.1418	0.1368	6.8674	7.4163	5.4230	8.8607	-1.0318
45	4.60	5.0016	0.1165	4.7679	5.2352	3.2888	6.7144	-0.4054
46	2.37	3.1688	0.1575	2.8529	3.4847	1.4429	4.8947	-0.8022
47	6.30	4.5389	0.1227	4.2929	4.7849	2.8244	6.2534	1.7618
48	10.03	8.8961	0.1940	8.5070	9.2851	7.1553	10.6369	1.1350
49	5.38	5.5167	0.1141	5.2880	5.7455	3.8046	7.2289	-0.1391
50	7.47	8.3521	0.1742	8.0027	8.7016	6.6198	10.0845	-0.8865
51	7.32	8.7081	0.1870	8.3330	9.0832	6.9704	10.4458	-1.3864
52	7.42	7.8245	0.1565	7.5105	8.1385	6.0989	9.5501	-0.4024
53	3.37	4.1805	0.1297	3.9204	4.4407	2.4639	5.8971	-0.8101
54	4.09	4.4572	0.1241	4.2083	4.7062	2.7423	6.1722	-0.3678
55	9.40	8.4832	0.1789	8.1245	8.8419	6.7489	10.2175	0.9161
56	3.06	1.9356	0.2012	1.5320	2.3393	0.1915	3.6797	1.1249

Sum of Residuals	0
Sum of Squared Residuals	37.92844
Predicted Residual SS (PRESS)	40.83630

QUESTION GROUP C: Model "Using 1 over Y"

The REG Procedure
Model: "Using 1 over Y"



QUESTION GROUP D

SAS code

```
DATA D;
 INPUT Cement Slag FlyAsh Water SP CoarseAggr FineAggr Days Strength;
 DATALINES;
 540.0   0.0    0.0 162.0  2.5     1040.0    676.0   28    79.99
 540.0   0.0    0.0 162.0  2.5     1055.0    676.0   28    61.89
 332.5 142.5    0.0 228.0  0.0      932.0    594.0  270    40.27
 . . . more data goes here . . .
;

PROC CORR DATA=D NOSIMPLE NOPROB;
RUN;

PROC REG DATA=D;
  FULLMODEL: model Strength = Cement Slag FlyAsh Water SP CoarseAggr FineAggr Days / VIF;
  TEST Flyash, CoarseAggr, FineAggr;
  BACKWARD:  model Strength = Cement Slag FlyAsh Water SP CoarseAggr FineAggr Days /
               SELECTION=BACKWARD DETAILS=SUMMARY VIF;
  TEST FlyAsh, CoarseAggr, FineAggr;
  STEPWISE:  model Strength = Cement Slag FlyAsh Water SP CoarseAggr FineAggr Days /
               SELECTION=STEPWISE DETAILS=SUMMARY VIF;
  RUN;
```

The CORR Procedure

9 Variables:	Cement	Slag	FlyAsh	Water	SP	CoarseAggr	FineAggr	Days	Strength

Pearson Correlation Coefficients, N = 85

	Cement	**Slag**	**FlyAsh**	**Water**	**SP**	**CoarseAggr**	**FineAggr**	**Days**	**Strength**
Cement	1.00000	-0.31021	-0.38472	-0.19446	0.04148	-0.02490	-0.12604	-0.00552	0.48666
Slag	-0.31021	1.00000	-0.36332	0.22309	0.01362	-0.20007	-0.44006	0.14237	0.17335
FlyAsh	-0.38472	-0.36332	1.00000	-0.09837	0.39408	-0.10587	0.10452	-0.16358	-0.20270
Water	-0.19446	0.22309	-0.09837	1.00000	-0.53845	-0.29323	-0.45438	0.20831	-0.28811
SP	0.04148	0.01362	0.39408	-0.53845	1.00000	-0.20530	0.14489	-0.21240	0.32835
CoarseAggr	-0.02490	-0.20007	-0.10587	-0.29323	-0.20530	1.00000	-0.17822	0.02478	-0.09455
FineAggr	-0.12604	-0.44006	0.10452	-0.45438	0.14489	-0.17822	1.00000	-0.15284	-0.12853
Days	-0.00552	0.14237	-0.16358	0.20831	-0.21240	0.02478	-0.15284	1.00000	0.41553
Strength	0.48666	0.17335	-0.20270	-0.28811	0.32835	-0.09455	-0.12853	0.41553	1.00000

QUESTION GROUP D: Model FULLMODEL

The REG Procedure
Model: FULLMODEL
Dependent Variable: Strength

Number of Observations Read	85
Number of Observations Used	85

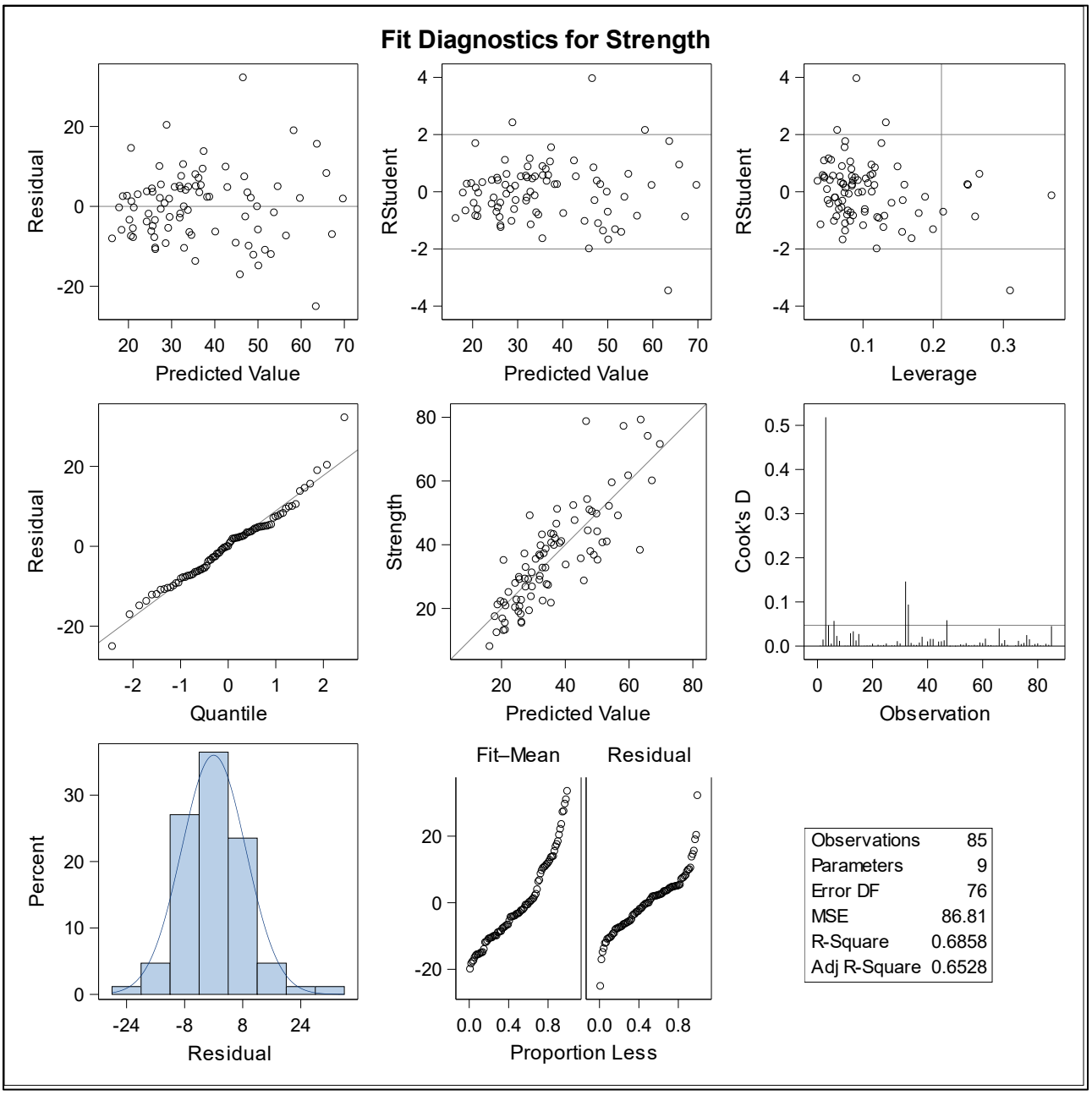
Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	8	14404	1800.45099	20.74	<.0001
Error	76	6597.53336	86.80965		
Corrected Total	84	21001			

Root MSE	9.31717	**R-Square**	0.6858
Dependent Mean	36.03659	**Adj R-Sq**	0.6528
Coeff Var	25.85475		

Parameter Estimates						
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Variance Inflation**
Intercept	1	-84.31828	76.32718	-1.10	0.2728	0
Cement	1	0.12106	0.02413	5.02	<.0001	6.58522
Slag	1	0.10648	0.03034	3.51	0.0008	7.88970
FlyAsh	1	0.07547	0.03608	2.09	0.0398	5.55383
Water	1	-0.03070	0.10833	-0.28	0.7777	5.75066
SP	1	0.64547	0.28461	2.27	0.0262	2.52371
CoarseAggr	1	0.03195	0.02819	1.13	0.2606	4.65851
FineAggr	1	0.04937	0.03150	1.57	0.1212	7.13202
Days	1	0.15392	0.02163	7.12	<.0001	1.08797

QUESTION GROUP D: Model FULLMODEL

The REG Procedure
Model: FULLMODEL
Dependent Variable: Strength



Test 1 Results for Dependent Variable Strength				
Source	**DF**	**Mean Square**	**F Value**	**Pr > F**
Numerator	3	133.13406	1.53	0.2126
Denominator	76	86.80965		

QUESTION GROUP D: Model BACKWARD

The REG Procedure
Model: BACKWARD
Dependent Variable: Strength

Number of Observations Read	85
Number of Observations Used	85

Summary of Backward Elimination

Step	Variable Removed	Number Vars In	Partial R-Square	Model R-Square	C(p)	F Value	Pr > F
1	Water	7	0.0003	0.6855	7.0803	0.08	0.7777

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	7	14397	2056.66252	23.98	<.0001
Error	77	6604.50367	85.77277		
Corrected Total	84	21001			

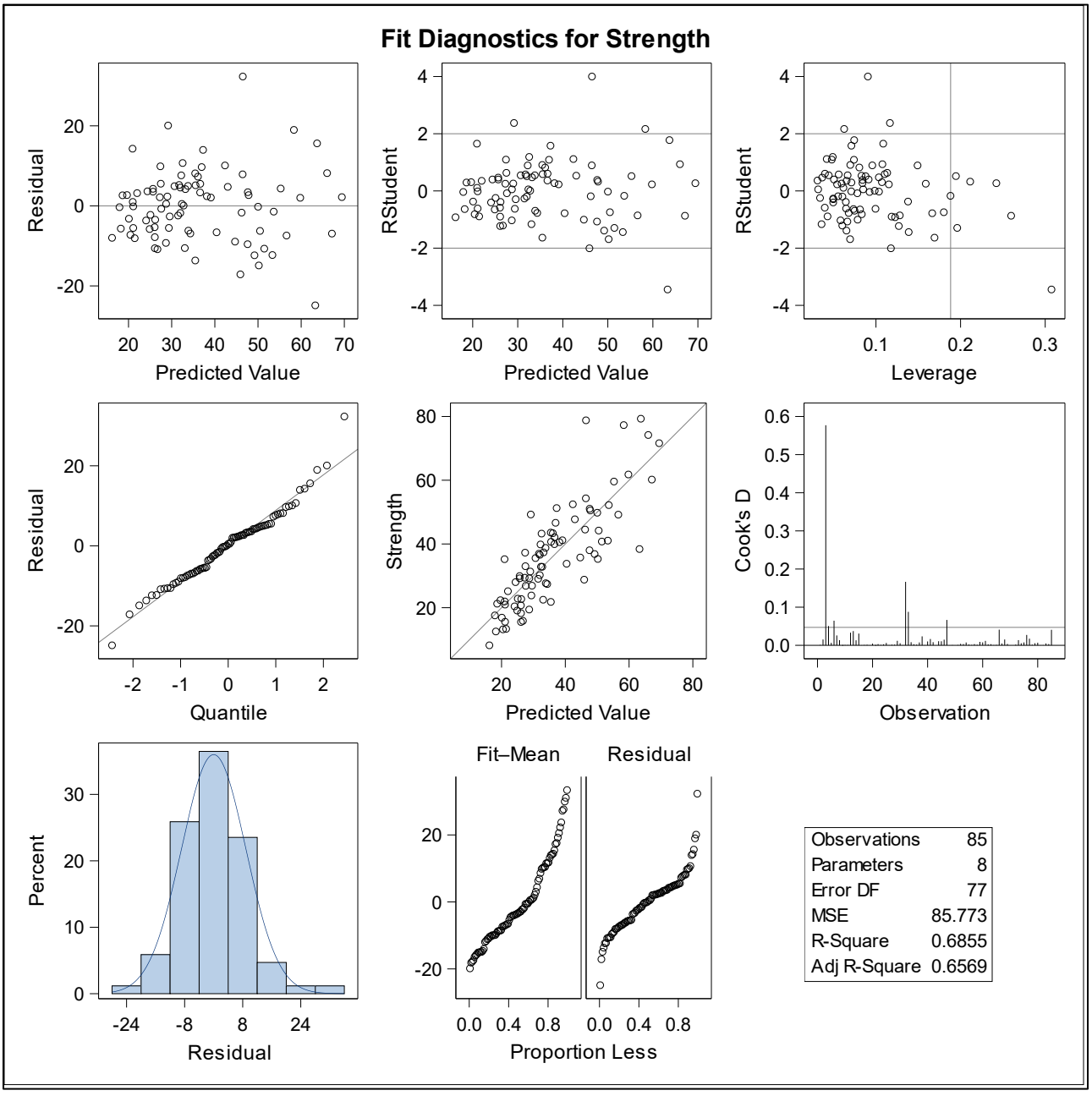
Root MSE	9.26136	**R-Square**	0.6855
Dependent Mean	36.03659	**Adj R-Sq**	0.6569
Coeff Var	25.69988		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variance Inflation
Intercept	1	-103.88384	32.33563	-3.21	0.0019	0
Cement	1	0.12566	0.01774	7.08	<.0001	3.60247
Slag	1	0.11173	0.02389	4.68	<.0001	4.94885
FlyAsh	1	0.08054	0.03115	2.59	0.0116	4.18846
SP	1	0.68438	0.24780	2.76	0.0072	1.93634
CoarseAggr	1	0.03844	0.01637	2.35	0.0215	1.59022
FineAggr	1	0.05647	0.01895	2.98	0.0039	2.61265
Days	1	0.15334	0.02140	7.16	<.0001	1.07822

QUESTION GROUP D: Model BACKWARD

The REG Procedure
Model: BACKWARD
Dependent Variable: Strength



Test 2 Results for Dependent Variable Strength				
Source	**DF**	**Mean Square**	**F Value**	**Pr > F**
Numerator	3	293.98037	3.43	0.0212
Denominator	77	85.77277		

QUESTION GROUP D: Model STEPWISE

The REG Procedure
Model: STEPWISE
Dependent Variable: Strength

Number of Observations Read	85
Number of Observations Used	85

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	Cement		1	0.2368	0.2368	103.625	25.76	<.0001
2	Days		2	0.1749	0.4117	63.3107	24.38	<.0001
3	SP		3	0.1653	0.5770	25.3323	31.64	<.0001
4	Slag		4	0.0665	0.6435	11.2398	14.93	0.0002
5	Water		5	0.0233	0.6668	7.6009	5.53	0.0212

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	14004	2800.84115	31.62	<.0001
Error	79	6996.93554	88.56880		
Corrected Total	84	21001			

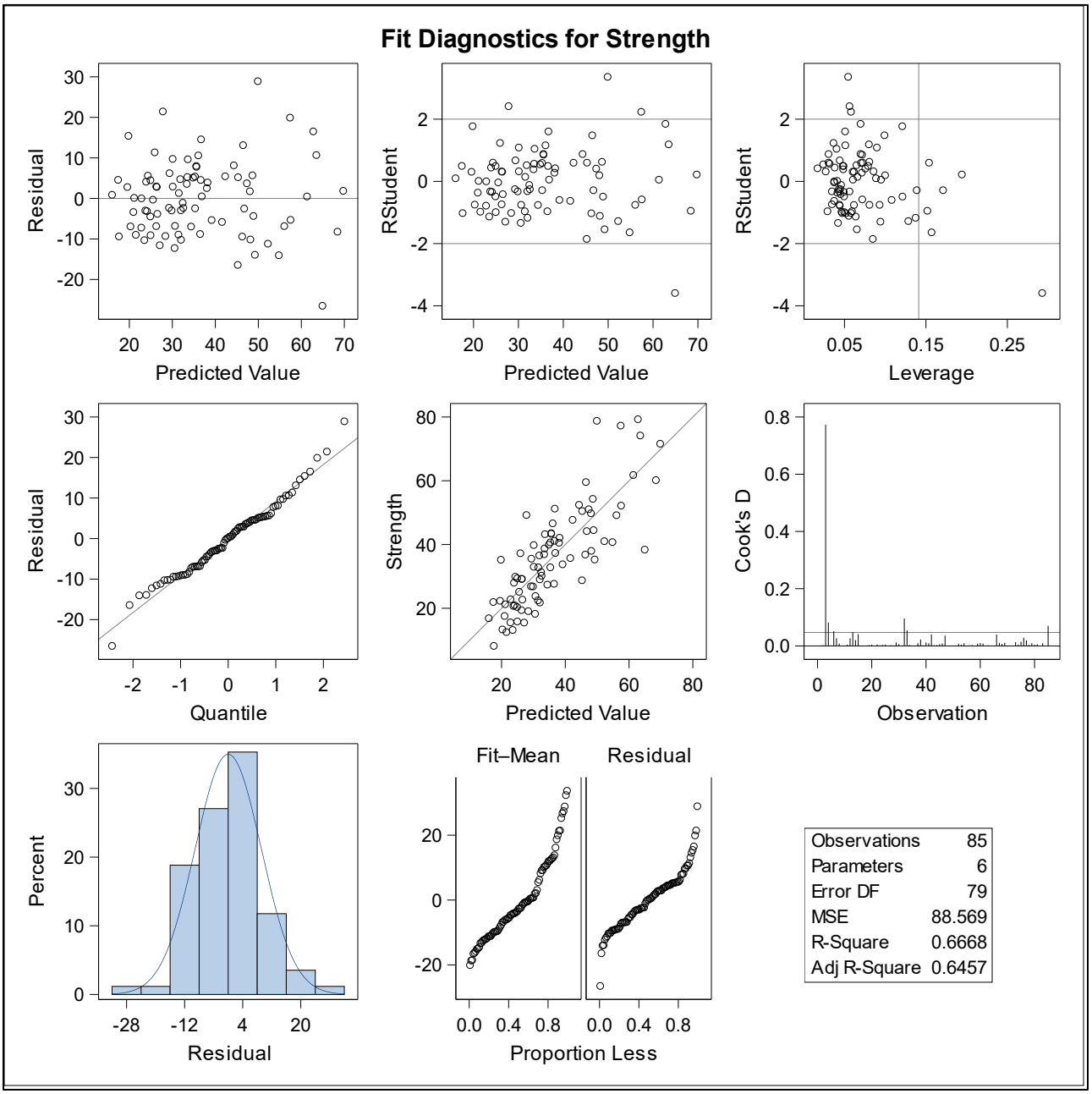
Root MSE	9.41110	**R-Square**	0.6668
Dependent Mean	36.03659	**Adj R-Sq**	0.6457
Coeff Var	26.11540		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|	Variance Inflation
Intercept	1	22.83574	11.69933	1.95	0.0545	0
Cement	1	0.07839	0.01011	7.75	<.0001	1.13286
Slag	1	0.05209	0.01190	4.38	<.0001	1.18853
Water	1	-0.13398	0.05699	-2.35	0.0212	1.55981
SP	1	0.83804	0.21990	3.81	0.0003	1.47665
Days	1	0.15415	0.02178	7.08	<.0001	1.08171

QUESTION GROUP D: Model STEPWISE

The REG Procedure
Model: STEPWISE
Dependent Variable: Strength



QUESTION GROUP E

SAS code

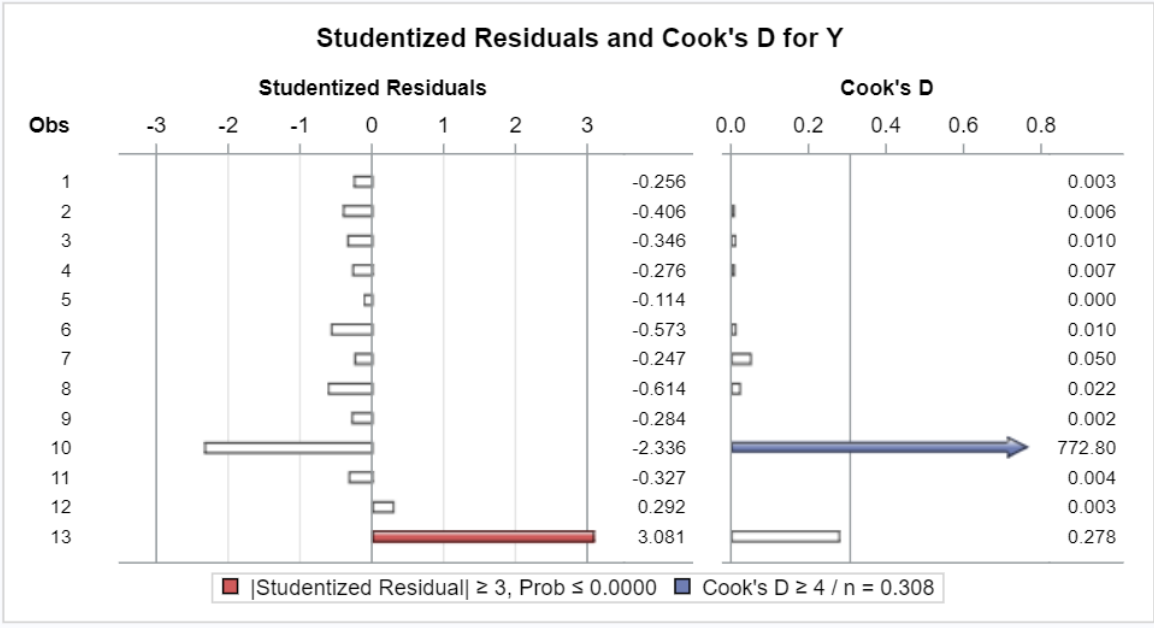
```
DATA E;
 INPUT Y X1 X2;
 DATALINES;
 . . . data goes here . . .
;
PROC REG DATA=E;
 MODEL Y = X1 X2 / INFLUENCE R;
 RUN;
```

The REG Procedure
Model: MODEL1
Dependent Variable: Y

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	2	4958752	???	0.4055	0.6771
Error	??	61142743	6114274		
Corrected Total	12	66101495			

Root MSE	2472.70586	**R-Square**	0.0750
Dependent Mean	1622.61538	**Adj R-Sq**	-0.1100
Coeff Var	152.39014		

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	1	632.95840	1582.66364	0.40	0.6976
X1	1	-3.05039	4.85606	-0.63	0.5440
X2	1	2.13636	2.41259	0.89	0.3967



QUESTION GROUP E

Output Statistics														
												DFBETAS		
Obs	Dependent Variable	Predicted Value	Std Error Mean Predict	Residual	Std Error Residual	Student Residual	Cook's D	RStudent	Hat Diag H	Cov Ratio	DFFITS	Intercept	X1	X2
1	770	1363	855.2859	-593.4139	2320.1	-0.256	0.003	-0.2434	0.1196	1.5278	-0.0897	-0.0776	0.0107	0.0378
2	545	1497	791.7847	-951.7929	2342.5	-0.406	0.006	-0.3887	0.1025	1.4540	-0.1314	-0.1007	0.0278	0.0340
3	341	1109	1085	-768.1334	2221.8	-0.346	0.010	-0.3300	0.1926	1.6388	-0.1612	-0.1557	0.0067	0.1000
4	439	1045	1132	-606.0427	2198.6	-0.276	0.007	-0.2625	0.2094	1.6959	-0.1351	-0.1320	0.0006	0.0890
5	1500	1770	716.7442	-269.7057	2366.5	-0.114	0.000	-0.1082	0.0840	1.4917	-0.0328	-0.0118	0.0094	-0.0063
6	395	1748	729.9172	-1353	2362.5	-0.573	0.010	-0.5523	0.0871	1.3597	-0.1706	-0.0748	0.0575	-0.0231
7	2873	3203	2083	-329.5574	1333.1	-0.247	0.050	-0.2352	0.7094	4.6336	-0.3675	0.2526	0.1036	-0.3330
8	805	2206	952.3807	-1401	2281.9	-0.614	0.022	-0.5936	0.1483	1.4354	-0.2477	0.0595	0.0927	-0.1719
9	996	1670	706.6645	-673.9027	2369.6	-0.284	0.002	-0.2709	0.0817	1.4578	-0.0808	-0.0405	0.0175	-0.0025
10	190	469.8713	2470	-279.8713	119.8	-2.336	772.800	-3.2874	0.9977	54.8085	-67.7651	-1.0470	-63.7752	24.5511
11	751	1519	770.8291	-768.3896	2349.5	-0.327	0.004	-0.3119	0.0972	1.4712	-0.1023	-0.0754	0.0210	0.0230
12	2564	1874	740.6541	689.5696	2359.2	0.292	0.003	0.2785	0.0897	1.4686	0.0874	0.0117	-0.0224	0.0326
13	8925	1620	702.4019	7305	2370.8	3.081	0.278	12.9739	0.0807	0.0002	3.8437	2.1125	-0.5860	-0.1641

QUESTION GROUP F

SAS code

```
DATA F;
 INPUT Variety $ Rain Yield;
 DATALINES;
 . . . data goes here . . .
;

PROC GLM DATA=F;
 CLASS Variety;
 MODEL Yield = Variety | Rain / SOLUTION;
 RUN;
```

The GLM Procedure
Dependent Variable: Yield

Class Level Information		
Class	**Levels**	**Values**
Variety	2	A B

Number of Observations Read	35
Number of Observations Used	35

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	575.098517	191.699506	4.43	0.0105
Error	31	1341.684340	43.280140		
Corrected Total	34	1916.782857			

R-Square	Coeff Var	Root MSE	Yield Mean
0.300033	8.770015	6.578764	75.01429

Source	DF	Type III SS	Mean Square	F Value	Pr > F
Variety	1	174.9517783	174.9517783	4.04	0.0531
Rain	1	406.9728583	406.9728583	9.40	0.0045
Rain*Variety	1	256.9650465	256.9650465	5.94	0.0208

Parameter		Estimate		Standard Error	t Value	Pr > |t|
Intercept		72.02534581	B	5.33468254	13.50	<.0001
Variety	**A**	-15.58638029	B	7.75229724	-2.01	0.0531
Variety	**B**	0.00000000	B	.	.	.
Rain		0.09691571	B	0.19684639	0.49	0.6259
Rain*Variety A		0.74989464	B	0.30775672	2.44	0.0208
Rain*Variety B		0.00000000	B	.	.	.