Regression1

The REG Procedure
Model: score
Dependent Variable: good

Number of Observations Read	4614
Number of Observations Used	4614

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	42	317.05317	7.54888	41.26	<.0001
Error	4571	836.34194	0.18297		
Corrected Total	4613	1153.39510			

Root MSE	0.42775	R-Square	0.2749
Dependent Mean	0.50477	Adj R-Sq	0.2682
Coeff Var	84.74116		

NOTE: Model is not full rank. Least-squares solutions for the parameters are not unique. Some statistics will be misleading.
A reported DF of 0 or B means that the estimate is biased.
NOTE: The following parameters have been set to 0, since the variables are a linear combination of other variables as shown.

nr_employed2 = Intercept - emp_var_rate1 - nr_employed1

```
education3 =  0
loan2 =  housing1 + housing2 - loan1
poutcome2 =  Intercept - previous1 - previous2
```

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	B	0.76560	0.19537	3.92	<.0001
pdays1	1	-0.04187	0.05489	-0.76	0.4457
pdays2	1	-0.24768	0.08053	-3.08	0.0021
age1	1	0.02417	0.01664	1.45	0.1464
age2	1	0.02486	0.02298	1.08	0.2795
campaign1	1	0.01381	0.01398	0.99	0.3232
campaign2	1	-0.00957	0.02327	-0.41	0.6808
campaign3	1	-0.06750	0.02692	-2.51	0.0122
previous1	B	-0.08003	0.02257	-3.55	0.0004
previous2	B	-0.14847	0.03815	-3.89	0.0001
emp_var_rate1	B	-0.30611	0.08493	-3.60	0.0003
cons_price_idx1	1	-0.05795	0.02916	-1.99	0.0470
cons_price_idx2	1	-0.24719	0.05901	-4.19	<.0001
cons_price_idx3	1	-0.02827	0.02130	-1.33	0.1846
euribor3m1	1	-0.09202	0.08919	-1.03	0.3023
euribor3m2	1	-0.08503	0.08938	-0.95	0.3415
euribor3m3	1	0.13202	0.07282	1.81	0.0699
euribor3m4	1	0.08731	0.06107	1.43	0.1529
nr_employed1	B	0.24923	0.04467	5.58	<.0001
nr_employed2	0	0	.	.	.
day_of_week1	1	-0.03153	0.01710	-1.84	0.0652
day_of_week2	1	-0.02828	0.01840	-1.54	0.1243
day_of_week3	1	-0.03793	0.01765	-2.15	0.0317
job1	1	0.06666	0.02731	2.44	0.0147
job2	1	0.01791	0.01690	1.06	0.2894

job3	1	-0.02311	0.04214	-0.55	0.5834
job4	1	-0.00038242	0.01826	-0.02	0.9833
marital1	1	0.00373	0.14379	0.03	0.9793
marital2	1	0.00280	0.14358	0.02	0.9844
marital3	1	-0.01851	0.14469	-0.13	0.8982
education1	1	0.02990	0.03162	0.95	0.3443
education2	1	0.00425	0.01541	0.28	0.7825
education3	0	0	.	.	.
education4	1	-0.01094	0.02074	-0.53	0.5977
default1	1	0.03854	0.01865	2.07	0.0389
housing1	B	0.01039	0.04711	0.22	0.8254
housing2	B	0.00722	0.04740	0.15	0.8789
loan1	B	0.02351	0.01776	1.32	0.1856
loan2	0	0	.	.	.
contact1	1	0.08572	0.01777	4.82	<.0001
month1	1	0.13017	0.04284	3.04	0.0024
month2	1	0.02235	0.04088	0.55	0.5846
month3	1	0.08219	0.03727	2.21	0.0275
month4	1	0.09157	0.03217	2.85	0.0044
month5	1	-0.01788	0.01777	-1.01	0.3143
poutcome1	1	-0.00967	0.07504	-0.13	0.8975
poutcome2	0	0	.	.	.

Regression2

The SAS System

The REG Procedure
Model: score
Dependent Variable: good

Number of Observations Read	4614
Number of Observations Used	4614

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	42	317.05317	7.54888	41.26	<.0001
Error	4571	836.34194	0.18297		
Corrected Total	4613	1153.39510			

Root MSE	0.42775	R-Square	0.2749
Dependent Mean	0.50477	Adj R-Sq	0.2682
Coeff Var	84.74116		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.76560	0.19537	3.92	<.0001
pdays1	1	-0.04187	0.05489	-0.76	0.4457
pdays2	1	-0.24768	0.08053	-3.08	0.0021

age1	1	0.02417	0.01664	1.45	0.1464
age2	1	0.02486	0.02298	1.08	0.2795
campaign1	1	0.01381	0.01398	0.99	0.3232
campaign2	1	-0.00957	0.02327	-0.41	0.6808
campaign3	1	-0.06750	0.02692	-2.51	0.0122
previous1	1	-0.08003	0.02257	-3.55	0.0004
previous2	1	-0.14847	0.03815	-3.89	0.0001
emp_var_rate1	1	-0.30611	0.08493	-3.60	0.0003
cons_price_idx1	1	-0.05795	0.02916	-1.99	0.0470
cons_price_idx2	1	-0.24719	0.05901	-4.19	<.0001
cons_price_idx3	1	-0.02827	0.02130	-1.33	0.1846
euribor3m1	1	-0.09202	0.08919	-1.03	0.3023
euribor3m2	1	-0.08503	0.08938	-0.95	0.3415
euribor3m3	1	0.13202	0.07282	1.81	0.0699
euribor3m4	1	0.08731	0.06107	1.43	0.1529
nr_employed1	1	0.24923	0.04467	5.58	<.0001
day_of_week1	1	-0.03153	0.01710	-1.84	0.0652
day_of_week2	1	-0.02828	0.01840	-1.54	0.1243
day_of_week3	1	-0.03793	0.01765	-2.15	0.0317
job1	1	0.06666	0.02731	2.44	0.0147
job2	1	0.01791	0.01690	1.06	0.2894
job3	1	-0.02311	0.04214	-0.55	0.5834
job4	1	-0.00038242	0.01826	-0.02	0.9833
marital1	1	0.00373	0.14379	0.03	0.9793
marital2	1	0.00280	0.14358	0.02	0.9844
marital3	1	-0.01851	0.14469	-0.13	0.8982
education1	1	0.02990	0.03162	0.95	0.3443
education2	1	0.00425	0.01541	0.28	0.7825
education4	1	-0.01094	0.02074	-0.53	0.5977
default1	1	0.03854	0.01865	2.07	0.0389
housing1	1	0.01039	0.04711	0.22	0.8254
housing2	1	0.00722	0.04740	0.15	0.8789
loan1	1	0.02351	0.01776	1.32	0.1856
contact1	1	0.08572	0.01777	4.82	<.0001
month1	1	0.13017	0.04284	3.04	0.0024

month2	1	0.02235	0.04088	0.55	0.5846
month3	1	0.08219	0.03727	2.21	0.0275
month4	1	0.09157	0.03217	2.85	0.0044
month5	1	−0.01788	0.01777	−1.01	0.3143
poutcome1	1	−0.00967	0.07504	−0.13	0.8975

The SAS System

The REG Procedure
Model: score
Dependent Variable: good

Number of Observations Read	4614
Number of Observations Used	4614

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	29	297.29505	10.25155	54.89	<.0001
Error	4584	856.10005	0.18676		
Corrected Total	4613	1153.39510			

Root MSE	0.43216	R-Square	0.2578
Dependent Mean	0.50477	Adj R-Sq	0.2531
Coeff Var	85.61464		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.31686	0.07927	4.00	<.0001
pdays1	1	-0.01340	0.05453	-0.25	0.8058
pdays2	1	-0.13062	0.07275	-1.80	0.0727

age1	1	0.03101	0.01675	1.85	0.0641
age2	1	0.03006	0.02316	1.30	0.1944
campaign1	1	0.01423	0.01406	1.01	0.3114
campaign2	1	−0.00395	0.02344	−0.17	0.8663
campaign3	1	−0.07506	0.02714	−2.77	0.0057
nr_employed1	1	0.36308	0.01957	18.55	<.0001
day_of_week1	1	−0.03240	0.01725	−1.88	0.0603
day_of_week2	1	−0.01442	0.01783	−0.81	0.4188
day_of_week3	1	−0.03183	0.01774	−1.79	0.0728
job1	1	0.07498	0.02714	2.76	0.0058
job2	1	0.02178	0.01666	1.31	0.1913
job4	1	0.00877	0.01787	0.49	0.6238
marital1	1	0.00747	0.01612	0.46	0.6432
marital3	1	−0.01796	0.02121	−0.85	0.3971
education1	1	0.02822	0.03189	0.88	0.3764
education2	1	0.00168	0.01551	0.11	0.9138
education4	1	−0.01189	0.02086	−0.57	0.5686
default1	1	0.05118	0.01869	2.74	0.0062
housing1	1	0.00458	0.01281	0.36	0.7208
loan1	1	0.02237	0.01696	1.32	0.1871
contact1	1	0.11182	0.01517	7.37	<.0001
month1	1	0.24341	0.03275	7.43	<.0001
month2	1	0.05651	0.03946	1.43	0.1521
month3	1	0.09653	0.03496	2.76	0.0058
month4	1	0.19608	0.02620	7.48	<.0001
month5	1	0.01374	0.01576	0.87	0.3833
poutcome1	1	0.03456	0.07221	0.48	0.6322

Regression4

The SAS System

The REG Procedure
Model: score
Dependent Variable: good

Number of Observations Read	4614
Number of Observations Used	4614

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	27	297.09163	11.00339	58.93	<.0001
Error	4586	856.30347	0.18672		
Corrected Total	4613	1153.39510			

Root MSE	0.43211	R-Square	0.2576
Dependent Mean	0.50477	Adj R-Sq	0.2532
Coeff Var	85.60614		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.33425	0.07742	4.32	<.0001
pdays1	1	-0.01401	0.05452	-0.26	0.7972
pdays2	1	-0.13324	0.07269	-1.83	0.0669

age1	1	0.03153	0.01672	1.89	0.0594
age2	1	0.02937	0.02314	1.27	0.2044
campaign1	1	0.01443	0.01405	1.03	0.3045
campaign2	1	−0.00467	0.02343	−0.20	0.8419
campaign3	1	−0.07682	0.02708	−2.84	0.0046
nr_employed1	1	0.35834	0.01894	18.92	<.0001
day_of_week1	1	−0.03242	0.01724	−1.88	0.0601
day_of_week2	1	−0.01432	0.01783	−0.80	0.4219
day_of_week3	1	−0.03225	0.01773	−1.82	0.0690
job1	1	0.07098	0.02601	2.73	0.0064
job2	1	0.01816	0.01514	1.20	0.2302
marital1	1	0.00749	0.01609	0.47	0.6416
marital3	1	−0.01703	0.02119	−0.80	0.4215
education1	1	0.02822	0.03189	0.88	0.3763
education2	1	−0.00123	0.01505	−0.08	0.9349
education4	1	−0.00923	0.02050	−0.45	0.6527
default1	1	0.05074	0.01859	2.73	0.0064
housing1	1	0.00452	0.01281	0.35	0.7244
loan1	1	0.02231	0.01696	1.32	0.1882
contact1	1	0.11241	0.01513	7.43	<.0001
month1	1	0.23573	0.03166	7.45	<.0001
month2	1	0.04969	0.03879	1.28	0.2003
month3	1	0.08952	0.03414	2.62	0.0088
month4	1	0.18663	0.02382	7.83	<.0001
poutcome1	1	0.03317	0.07219	0.46	0.6459

Regression5

The SAS System

The REG Procedure
Model: score
Dependent Variable: good

Number of Observations Read	4614
Number of Observations Used	4614

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	26	297.09038	11.42655	61.21	<.0001
Error	4587	856.30472	0.18668		
Corrected Total	4613	1153.39510			

Root MSE	0.43207	R-Square	0.2576
Dependent Mean	0.50477	Adj R-Sq	0.2534
Coeff Var	85.59687		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.33392	0.07731	4.32	<.0001
pdays1	1	-0.01399	0.05451	-0.26	0.7975
pdays2	1	-0.13316	0.07268	-1.83	0.0670

age1	1	0.03156	0.01671	1.89	0.0591
age2	1	0.02942	0.02313	1.27	0.2033
campaign1	1	0.01444	0.01405	1.03	0.3042
campaign2	1	−0.00466	0.02343	−0.20	0.8422
campaign3	1	−0.07683	0.02708	−2.84	0.0046
nr_employed1	1	0.35825	0.01891	18.95	<.0001
day_of_week1	1	−0.03240	0.01724	−1.88	0.0602
day_of_week2	1	−0.01430	0.01783	−0.80	0.4227
day_of_week3	1	−0.03224	0.01773	−1.82	0.0691
job1	1	0.07113	0.02594	2.74	0.0061
job2	1	0.01789	0.01477	1.21	0.2257
marital1	1	0.00740	0.01605	0.46	0.6449
marital3	1	−0.01705	0.02118	−0.80	0.4210
education1	1	0.02865	0.03146	0.91	0.3625
education4	1	−0.00883	0.01993	−0.44	0.6576
default1	1	0.05065	0.01855	2.73	0.0064
housing1	1	0.00451	0.01281	0.35	0.7250
loan1	1	0.02232	0.01695	1.32	0.1881
contact1	1	0.11237	0.01512	7.43	<.0001
month1	1	0.23568	0.03165	7.45	<.0001
month2	1	0.04974	0.03878	1.28	0.1996
month3	1	0.08954	0.03413	2.62	0.0087
month4	1	0.18652	0.02378	7.84	<.0001
poutcome1	1	0.03325	0.07218	0.46	0.6451

Regression6

The SAS System

The REG Procedure
Model: score
Dependent Variable: good

Number of Observations Read	4614
Number of Observations Used	4614

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	17	296.48852	17.44050	93.54	<.0001
Error	4596	856.90658	0.18645		
Corrected Total	4613	1153.39510			

Root MSE	0.43179	R-Square	0.2571
Dependent Mean	0.50477	Adj R-Sq	0.2543
Coeff Var	85.54307		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.35782	0.03407	10.50	<.0001
pdays2	1	-0.16253	0.02334	-6.96	<.0001
age1	1	0.03571	0.01544	2.31	0.0208
age2	1	0.02682	0.02267	1.18	0.2368

campaign1	1	0.01649	0.01329	1.24	0.2147
campaign3	1	-0.07534	0.02663	-2.83	0.0047
nr_employed1	1	0.36035	0.01877	19.20	<.0001
day_of_week1	1	-0.02863	0.01632	-1.75	0.0795
day_of_week3	1	-0.02850	0.01683	-1.69	0.0904
job1	1	0.07301	0.02571	2.84	0.0045
job2	1	0.01866	0.01449	1.29	0.1980
default1	1	0.05117	0.01846	2.77	0.0056
loan1	1	0.02208	0.01691	1.31	0.1918
contact1	1	0.11314	0.01506	7.51	<.0001
month1	1	0.23725	0.03156	7.52	<.0001
month2	1	0.05037	0.03872	1.30	0.1933
month3	1	0.08947	0.03403	2.63	0.0086
month4	1	0.18887	0.02371	7.97	<.0001

Regression7

The SAS System

The REG Procedure
Model: score
Dependent Variable: good

Number of Observations Read	4614
Number of Observations Used	4614

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	15	295.93555	19.72904	105.79	<.0001
Error	4598	857.45955	0.18649		
Corrected Total	4613	1153.39510			

Root MSE	0.43184	R-Square	0.2566
Dependent Mean	0.50477	Adj R-Sq	0.2542
Coeff Var	85.55205		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.36795	0.03352	10.98	<.0001
pdays2	1	-0.16286	0.02334	-6.98	<.0001
age1	1	0.03010	0.01484	2.03	0.0425

campaign3	1	−0.08189	0.02592	−3.16	0.0016
nr_employed1	1	0.36356	0.01868	19.47	<.0001
day_of_week1	1	−0.02826	0.01632	−1.73	0.0834
day_of_week3	1	−0.02921	0.01682	−1.74	0.0826
job1	1	0.08546	0.02318	3.69	0.0002
job2	1	0.01891	0.01449	1.30	0.1921
default1	1	0.04961	0.01842	2.69	0.0071
loan1	1	0.02305	0.01690	1.36	0.1726
contact1	1	0.11427	0.01505	7.59	<.0001
month1	1	0.23871	0.03154	7.57	<.0001
month2	1	0.05184	0.03871	1.34	0.1805
month3	1	0.09336	0.03395	2.75	0.0060
month4	1	0.19105	0.02368	8.07	<.0001

The SAS System

The REG Procedure
Model: score
Dependent Variable: good

Number of Observations Read	4614
Number of Observations Used	4614

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	294.95417	24.57951	131.74	<.0001
Error	4601	858.44093	0.18658		
Corrected Total	4613	1153.39510			

Root MSE	0.43195	R-Square	0.2557
Dependent Mean	0.50477	Adj R-Sq	0.2538
Coeff Var	85.57309		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	0.39248	0.03032	12.95	<.0001
pdays2	1	-0.16444	0.02329	-7.06	<.0001
age1	1	0.03061	0.01483	2.06	0.0390

campaign3	1	−0.08192	0.02593	−3.16	0.0016
nr_employed1	1	0.37268	0.01798	20.73	<.0001
day_of_week1	1	−0.02887	0.01632	−1.77	0.0770
day_of_week3	1	−0.02987	0.01682	−1.78	0.0757
job1	1	0.07873	0.02243	3.51	0.0005
default1	1	0.05148	0.01836	2.80	0.0051
contact1	1	0.11501	0.01503	7.65	<.0001
month1	1	0.23399	0.03132	7.47	<.0001
month3	1	0.08702	0.03363	2.59	0.0097
month4	1	0.19047	0.02364	8.06	<.0001