The GLMSELECT Procedure

Data Set WORK.BO			
Dependent Variable	weight		
Selection Method	Stepwise		
Select Criterion	Significance Level		
Stop Criterion	Significance Level		
Entry Significance Level (SLE) 0.			
Stay Significance Level (SLS)	0.15		
Effect Hierarchy Enforced	None		

Number of Observations Read	483
Number of Observations Used	483

Dimensions		
Number of Effects	15	
Number of Parameters	15	

Effect Entered: Intercept

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	0	0		
Error	482	86945	180.38465	
Corrected Total	482	86945		

Root MSE	13.43074
Dependent Mean	68.73375
R-Square	0.0000
Adj R-Sq	0.0000
AIC	2995.22816
AICC	2995.25316
SBC	2514.40817

Parameter Estimates				
Parameter	neter DF Estimate Standard t Value			
Intercept	1	68.733747	0.611120	112.47

Effect Entered: waist_girth

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	1	71486	71486	2224.11
Error	481	15460	32.14111	
Corrected Total	482	86945		

Root MSE	5.66931
Dependent Mean	68.73375
R-Square	0.8222
Adj R-Sq	0.8218
AIC	2163.07152
AICC	2163.12162
SBC	1686.43155

Parameter Estimates					
Parameter DF Estimate Error t Value					
Intercept	1	-14.915151	1.792366	-8.32	
waist_girth	1	1.089311	0.023098	47.16	

	Best 10 Entry Candidates				
Rank	Effect	Log pValue	Pr > F		
1	waist_girth	-418.5681	<.0001		
2	chest_girth	-404.9518	<.0001		
3	bicep	-342.0106	<.0001		
4	chest_diam	-288.6823	<.0001		
5	wrist_girth	-266.8383	<.0001		
6	elbow_diam	-250.8053	<.0001		
7	knee_girth	-241.6434	<.0001		
8	wrist_diam	-215.4577	<.0001		
9	ankle_girth	-213.9902	<.0001		
10	knee_diam	-213.8188	<.0001		

Effect Entered: knee_girth

Analysis of Variance				
Source DF Sum of Squares Square F Value				F Value
Model	2	77316	38658	1927.06
Error	480	9629.13358	20.06069	
Corrected Total	482	86945		

Root MSE	4.47892
Dependent Mean	68.73375
R-Square	0.8893
Adj R-Sq	0.8888
AIC	1936.39290
AICC	1936.47658
SBC	1463.93295

Parameter Estimates					
Parameter DF Estimate Standard Error t Value					
Intercept	1	-57.461592	2.869340	-20.03	
waist_girth	1	0.815805	0.024297	33.58	
knee_girth	1	1.758668	0.103156	17.05	

	Best 10 Entry Candidates				
Rank	Effect	Log pValue	Pr > F		
1	knee_girth	-116.4582	<.0001		
2	height	-107.7771	<.0001		
3	knee_diam	-103.4492	<.0001		
4	elbow_diam	-86.0446	<.0001		
5	bicep	-83.8274	<.0001		
6	wrist_girth	-78.6466	<.0001		
7	ankle_girth	-77.7640	<.0001		
8	chest_girth	-71.0506	<.0001		
9	wrist_diam	-59.3572	<.0001		
10	chest_diam	-56.6623	<.0001		

Effect Entered: height

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	
Model	3	80636	26879	2040.53	
Error	479	6309.56377	13.17237		
Corrected Total	482	86945			

Root MSE	3.62938
Dependent Mean	68.73375
R-Square	0.9274
Adj R-Sq	0.9270
AIC	1734.21590
AICC	1734.34168
SBC	1265.93596

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-96.918339	3.403490	-28.48	
waist_girth	1	0.704397	0.020902	33.70	
knee_girth	1	1.436396	0.086020	16.70	
height	1	0.349510	0.022017	15.87	

Best 10 Entry Candidates				
Rank	Effect	Log pValue	Pr > F	
1	height	-104.0266	<.0001	
2	chest_girth	-99.5844	<.0001	
3	bicep	-86.7823	<.0001	
4	elbow_diam	-80.9136	<.0001	
5	chest_diam	-58.8965	<.0001	
6	wrist_girth	-57.7514	<.0001	
7	wrist_diam	-49.0824	<.0001	
8	ankle_diam	-48.2934	<.0001	
9	knee_diam	-40.7371	<.0001	
10	ankle_girth	-22.3115	<.0001	

Effect Entered: bicep

Analysis of Variance					
Source DF Sum of Mean Square F Value					
Model	4	82315	20579	2124.59	
Error	478	4629.92559	9.68604		
Corrected Total	482	86945			

Root MSE	3.11224
Dependent Mean	68.73375
R-Square	0.9467
Adj R-Sq	0.9463
AIC	1586.71496
AICC	1586.89143
SBC	1122.61504

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-91.505487	2.947343	-31.05	
waist_girth	1	0.507079	0.023362	21.71	
bicep	1	0.794075	0.060301	13.17	
knee_girth	1	1.309134	0.074394	17.60	
height	1	0.289311	0.019425	14.89	

	Best 10 Entry Candidates				
Rank	Effect	Log pValue	Pr > F		
1	bicep	-76.6317	<.0001		
2	chest_girth	-74.4457	<.0001		
3	chest_diam	-31.5665	<.0001		
4	knee_diam	-24.2738	<.0001		
5	elbow_diam	-24.0966	<.0001		
6	wrist_girth	-18.5327	<.0001		
7	age	-16.7085	<.0001		
8	wrist_diam	-12.9909	<.0001		
9	ankle_girth	-9.9805	<.0001		
10	ankle_diam	-9.4477	<.0001		

Effect Entered: chest_girth

Analysis of Variance				
Source DF Sum of Mean Square F Value				
Model	5	82593	16519	1810.37
Error	477	4352.36515	9.12446	
Corrected Total	482	86945		

Root MSE	3.02067
Dependent Mean	68.73375
R-Square	0.9499
Adj R-Sq	0.9494
AIC	1558.85523
AICC	1559.09102
SBC	1098.93533

Parameter Estimates						
Parameter DF Estimate Standard				t Value		
Intercept	1	-94.780166	2.921593	-32.44		
chest_girth	1	0.237341	0.043033	5.52		
waist_girth	1	0.414713	0.028189	14.71		
bicep	1	0.481991	0.081408	5.92		
knee_girth	1	1.361737	0.072832	18.70		
height	1	0.266193	0.019314	13.78		

Entry Candidates					
Rank	Effect	Log pValue	Pr > F		
1	chest_girth	-16.6778	<.0001		
2	navel_girth	-14.9530	<.0001		
3	age	-11.5469	<.0001		
4	chest_diam	-10.7288	<.0001		
5	knee_diam	-10.3523	<.0001		
6	ankle_girth	-3.2564	0.0385		
7	wrist_girth	-1.8450	0.1580		
8	ankle_diam	-1.2866	0.2762		

The GLMSELECT Procedure Stepwise Selection: Step 5 Effect Entered: chest_girth

Entry Candidates					
Rank Effect Log pValue Pr >					
9	elbow_diam	-1.2113	0.2978		
10	wrist_diam	-0.2145	0.8070		

Effect Entered: navel_girth

Analysis of Variance						
Source DF Sum of Square F Value						
Model	6	82847	13808	1603.86		
Error	476	4097.96398	8.60917			
Corrected Total	482	86945				

Root MSE	2.93414
Dependent Mean	68.73375
R-Square	0.9529
Adj R-Sq	0.9523
AIC	1531.76455
AICC	1532.06835
SBC	1076.02467

Parameter Estimates						
Parameter	DF	Estimate	Standard Error	t Value		
Intercept	1	-99.393539	2.962079	-33.56		
chest_girth	1	0.240518	0.041804	5.75		
waist_girth	1	0.331556	0.031365	10.57		
navel_girth	1	0.125869	0.023155	5.44		
bicep	1	0.510669	0.079251	6.44		
knee_girth	1	1.233389	0.074581	16.54		
height	1	0.287622	0.019170	15.00		

Entry Candidates					
Rank	Effect	Log pValue	Pr > F		
1	navel_girth	-16.2550	<.0001		
2	age	-11.1979	<.0001		
3	knee_diam	-10.7783	<.0001		
4	wrist_girth	-3.7632	0.0232		
5	chest_diam	-3.2509	0.0387		
6	ankle_girth	-2.8021	0.0607		
7	wrist_diam	-0.6691	0.5122		

The GLMSELECT Procedure Stepwise Selection: Step 6 Effect Entered: navel_girth

Entry Candidates					
Rank Effect pValue Pr > F					
8	ankle_diam	-0.3646	0.6945		
9	elbow_diam	-0.0266	0.9737		

Effect Entered: age

Analysis of Variance						
Source DF Sum of Square F Value						
Model	7	83146	11878	1484.92		
Error	475	3799.55473	7.99906			
Corrected Total	482	86945				

Root MSE	2.82826
Dependent Mean	68.73375
R-Square	0.9563
Adj R-Sq	0.9557
AIC	1497.24667
AICC	1497.62722
SBC	1045.68680

Parameter Estimates						
Parameter	DF	Estimate	Standard Error	t Value		
Intercept	1	-97.357382	2.874589	-33.87		
chest_girth	1	0.231706	0.040321	5.75		
waist_girth	1	0.372038	0.030951	12.02		
navel_girth	1	0.158945	0.022967	6.92		
bicep	1	0.480396	0.076552	6.28		
knee_girth	1	1.148917	0.073208	15.69		
age	1	-0.093408	0.015293	-6.11		
height	1	0.285746	0.018481	15.46		

Entry Candidates					
Rank	Effect	Log pValue	Pr > F		
1	age	-19.9797	<.0001		
2	knee_diam	-12.5122	<.0001		
3	chest_diam	-6.4220	0.0016		
4	ankle_girth	-3.0087	0.0494		
5	wrist_girth	-1.1547	0.3152		
6	elbow_diam	-0.3774	0.6856		

The GLMSELECT Procedure Stepwise Selection: Step 7 Effect Entered: age

Entry Candidates				
Rank	Effect	Log pValue	Pr > F	
7	wrist_diam	-0.3246	0.7229	
8	ankle_diam	-0.2794	0.7562	

Effect Entered: knee_diam

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	
Model	8	83403	10425	1395.14	
Error	474	3542.03367	7.47264		
Corrected Total	482	86945			

Root MSE	2.73361
Dependent Mean	68.73375
R-Square	0.9593
Adj R-Sq	0.9586
AIC	1465.34836
AICC	1465.81446
SBC	1017.96851

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-100.430502	2.827279	-35.52	
knee_diam	1	0.911601	0.155287	5.87	
chest_girth	1	0.229358	0.038974	5.88	
waist_girth	1	0.376427	0.029925	12.58	
navel_girth	1	0.168817	0.022262	7.58	
bicep	1	0.389355	0.075598	5.15	
knee_girth	1	0.916396	0.081090	11.30	
age	1	-0.105772	0.014931	-7.08	
height	1	0.265925	0.018179	14.63	

Entry Candidates					
Rank	Effect	Log pValue	Pr > F		
1	knee_diam	-18.6216	<.0001		
2	chest_diam	-7.3459	0.0006		
3	ankle_girth	-3.3292	0.0358		
4	elbow_diam	-2.1061	0.1217		
5	wrist_diam	-2.0284	0.1316		

The GLMSELECT Procedure Stepwise Selection: Step 8 Effect Entered: knee_diam

Entry Candidates				
Rank	Effect	Log pValue	Pr > F	
6	ankle_diam	-1.9656	0.1401	
7	wrist_girth	-0.1160	0.8905	

Effect Entered: chest_diam

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	
Model	9	83453	9272.58100	1255.93	
Error	473	3492.17095	7.38303		
Corrected Total	482	86945			

Root MSE	2.71717
Dependent Mean	68.73375
R-Square	0.9598
Adj R-Sq	0.9591
AIC	1460.50065
AICC	1461.06116
SBC	1017.30082

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-100.613581	2.811156	-35.79	
chest_diam	1	0.255661	0.098377	2.60	
knee_diam	1	0.844681	0.156486	5.40	
chest_girth	1	0.177066	0.043654	4.06	
waist_girth	1	0.366907	0.029969	12.24	
navel_girth	1	0.178581	0.022445	7.96	
bicep	1	0.406236	0.075424	5.39	
knee_girth	1	0.905572	0.080710	11.22	
age	1	-0.105740	0.014841	-7.12	
height	1	0.259716	0.018227	14.25	

Entry Candidates				
Rank	Effect	Log pValue	Pr > F	
1	chest_diam	-4.6411	0.0096	
2	ankle_girth	-2.8300	0.0590	
3	wrist_girth	-1.3033	0.2716	
4	ankle_diam	-1.0105	0.3640	

The GLMSELECT Procedure Stepwise Selection: Step 9 Effect Entered: chest_diam

Entry Candidates				
Rank	Effect	Log pValue	Pr > F	
5	elbow_diam	-0.2067	0.8133	
6	wrist_diam	-0.0438	0.9571	

Effect Entered: ankle_girth

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	
Model	10	83478	8347.82545	1136.43	
Error	472	3467.14546	7.34565		
Corrected Total	482	86945			

Root MSE	2.71029
Dependent Mean	68.73375
R-Square	0.9601
Adj R-Sq	0.9593
AIC	1459.02693
AICC	1459.69076
SBC	1020.00711

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-100.703193	2.804452	-35.91	
chest_diam	1	0.251597	0.098152	2.56	
knee_diam	1	0.831943	0.156242	5.32	
chest_girth	1	0.174582	0.043564	4.01	
waist_girth	1	0.365192	0.029908	12.21	
navel_girth	1	0.178616	0.022388	7.98	
bicep	1	0.391399	0.075661	5.17	
knee_girth	1	0.841356	0.087702	9.59	
ankle_girth	1	0.203025	0.109995	1.85	
age	1	-0.105815	0.014803	-7.15	
height	1	0.254424	0.018405	13.82	

Entry Candidates				
Rank	Effect	Log pValue	Pr > F	
1	ankle_girth	-2.7249	0.0656	
2	wrist_girth	-1.2089	0.2985	
3	ankle_diam	-0.9944	0.3700	

The GLMSELECT Procedure Stepwise Selection: Step 10 Effect Entered: ankle_girth

	Entry Candidates				
Rank	Effect	Log pValue	Pr > F		
4	elbow_diam	-0.3509	0.7041		
5	wrist_diam	-0.1488	0.8618		

Effect Entered: wrist_girth

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	11	83504	7591.24700	1038.87
Error	471	3441.68291	7.30718	
Corrected Total	482	86945		

Root MSE	2.70318
Dependent Mean	68.73375
R-Square	0.9604
Adj R-Sq	0.9595
AIC	1457.46671
AICC	1458.24283
SBC	1022.62691

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-100.396569	2.801918	-35.83	
chest_diam	1	0.244906	0.097961	2.50	
knee_diam	1	0.893683	0.159304	5.61	
chest_girth	1	0.186753	0.043936	4.25	
waist_girth	1	0.366552	0.029838	12.28	
navel_girth	1	0.165498	0.023409	7.07	
bicep	1	0.445243	0.080787	5.51	
knee_girth	1	0.841814	0.087472	9.62	
ankle_girth	1	0.284928	0.118155	2.41	
wrist_girth	1	-0.419579	0.224770	-1.87	
age	1	-0.100826	0.015004	-6.72	
height	1	0.264330	0.019109	13.83	

The GLMSELECT Procedure Stepwise Selection: Step 11 Effect Entered: wrist_girth

	Entry Candidates				
Rank	Effect	Log pValue	Pr > F		
1	wrist_girth	-2.7716	0.0626		
2	ankle_diam	-2.0709	0.1261		
3	elbow_diam	-0.5747	0.5629		
4	wrist_diam	-0.4382	0.6452		

Effect Entered: ankle_diam

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	12	83516	6959.68924	953.90
Error	470	3429.12903	7.29602	
Corrected Total	482	86945		

Root MSE	2.70111
Dependent Mean	68.73375
R-Square	0.9606
Adj R-Sq	0.9596
AIC	1457.70170
AICC	1458.59914
SBC	1027.04192

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-101.065000	2.845773	-35.51	
chest_diam	1	0.243706	0.097890	2.49	
knee_diam	1	0.978978	0.171951	5.69	
ankle_diam	1	-0.241526	0.184127	-1.31	
chest_girth	1	0.193410	0.044195	4.38	
waist_girth	1	0.364737	0.029848	12.22	
navel_girth	1	0.166745	0.023410	7.12	
bicep	1	0.441339	0.080780	5.46	
knee_girth	1	0.812989	0.090125	9.02	
ankle_girth	1	0.323692	0.121707	2.66	
wrist_girth	1	-0.382361	0.226383	-1.69	
age	1	-0.098395	0.015107	-6.51	
height	1	0.273061	0.020221	13.50	

The GLMSELECT Procedure Stepwise Selection: Step 12 Effect Entered: ankle_diam

Entry Candidates				
Rank	Effect	Log pValue	Pr > F	
1	ankle_diam	-1.6594	0.1903	
2	wrist_diam	-0.3435	0.7092	
3	elbow_diam	-0.1274	0.8804	

Effect Removed: ankle_diam

Analysis of Variance				
Source	rce DF Squares Square			
Model	11	83504	7591.24700	1038.87
Error	471	3441.68291	7.30718	
Corrected Total	482	86945		

Root MSE	2.70318
Dependent Mean	68.73375
R-Square	0.9604
Adj R-Sq	0.9595
AIC	1457.46671
AICC	1458.24283
SBC	1022.62691

Parameter Estimates				
Parameter	DF	DF Estimate Error		t Value
Intercept	1	-100.396569	2.801918	-35.83
chest_diam	1	0.244906	0.097961	2.50
knee_diam	1	0.893683	0.159304	5.61
chest_girth	1	0.186753	0.043936	4.25
waist_girth	1	0.366552	0.029838	12.28
navel_girth	1	0.165498	0.023409	7.07
bicep	1	0.445243	0.080787	5.51
knee_girth	1	0.841814	0.087472	9.62
ankle_girth	1	0.284928	0.118155	2.41
wrist_girth	1	-0.419579	0.224770	-1.87
age	1	-0.100826	0.015004	-6.72
height	1	0.264330	0.019109	13.83

The GLMSELECT Procedure Stepwise Selection: Step 13 Effect Removed: ankle_diam

Best 10 Removal Candidates				
Rank	Effect	Log pValue	Pr > F	
1	ankle_diam	-1.6594	0.1903	
2	wrist_girth	-2.3872	0.0919	
3	chest_diam	-4.3326	0.0131	
4	ankle_girth	-4.8170	0.0081	
5	chest_girth	-11.1152	<.0001	
6	bicep	-16.3944	<.0001	
7	knee_diam	-17.6336	<.0001	
8	age	-22.3863	<.0001	
9	navel_girth	-26.2459	<.0001	
10	knee_girth	-39.8821	<.0001	

The SAS System

The GLMSELECT Procedure

	Stepwise Selection Summary						
Step	Effect Entered	Effect Removed	Number Effects In	F Value	Pr > F		
0	Intercept		1	0.00	1.0000		
1	waist_girth		2	2224.11	<.0001		
2	knee_girth		3	290.66	<.0001		
3	height		4	252.01	<.0001		
4	bicep		5	173.41	<.0001		
5	chest_girth		6	30.42	<.0001		
6	navel_girth		7	29.55	<.0001		
7	age		8	37.31	<.0001		
8	knee_diam		9	34.46	<.0001		
9	chest_diam		10	6.75	0.0096		
10	ankle_girth		11	3.41	0.0656		
11	wrist_girth		12	3.48	0.0626		
12	ankle_diam		13	1.72	0.1903		
13		ankle_diam	12	1.72	0.1903		

Stepwise selection stopped because the sequence of effect additions and removals is cycling.

The GLMSELECT Procedure Selected Model

The selected model is the model at the last step (Step 13).

Effects: Intercept chest_diam knee_diam chest_girth waist_girth navel_girth bicep knee_girth ankle_girth wrist_girth age height

Analysis of Variance					
Sum of Mean Source DF Squares Square F Value					
Model	11	83504	7591.24700	1038.87	
Error	471	3441.68291	7.30718		
Corrected Total	482	86945			

Root MSE	2.70318
Dependent Mean	68.73375
R-Square	0.9604
Adj R-Sq	0.9595
AIC	1457.46671
AICC	1458.24283
SBC	1022.62691

Parameter Estimates					
Parameter	DF	DF Estimate Error		t Value	
Intercept	1	-100.396569	2.801918	-35.83	
chest_diam	1	0.244906	0.097961	2.50	
knee_diam	1	0.893683	0.159304	5.61	
chest_girth	1	0.186753	0.043936	4.25	
waist_girth	1	0.366552	0.029838	12.28	
navel_girth	1	0.165498	0.023409	7.07	
bicep	1	0.445243	0.080787	5.51	
knee_girth	1	0.841814	0.087472	9.62	
ankle_girth	1	0.284928	0.118155	2.41	
wrist_girth	1	-0.419579	0.224770	-1.87	
age	1	-0.100826	0.015004	-6.72	
height	1	0.264330	0.019109	13.83	

The GLMSELECT Procedure

Data Set	WORK.BODY
Dependent Variable	weight
Selection Method	Stepwise
Select Criterion	C(p)
Stop Criterion	C(p)
Effect Hierarchy Enforced	None

Number of Observations Read	483
Number of Observations Used	483

Dimensions		
Number of Effects	15	
Number of Parameters	15	

Effect Entered: Intercept

Analysis of Variance						
Source DF Squares Square F Value						
Model	0	0				
Error	482	86945	180.38465			
Corrected Total	482	86945				

Root MSE	13.43074
Dependent Mean	68.73375
R-Square	0.0000
Adj R-Sq	0.0000
AIC	2995.22816
AICC	2995.25316
BIC	2508.46881
C(p)	11398
SBC	2514.40817

	Parameter Estimates					
Parameter	DF Estimate Standard Error t			t Value		
Intercept	1	68.733747	0.611120	112.47		

Effect Entered: waist_girth

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	1	71486	71486	2224.11
Error	481	15460	32.14111	
Corrected Total	482	86945		

Root MSE	5.66931
Dependent Mean	68.73375
R-Square	0.8222
Adj R-Sq	0.8218
AIC	2163.07152
AICC	2163.12162
BIC	1675.79626
C(p)	1633.26849
SBC	1686.43155

Parameter Estimates				
Parameter DF Estimate Error t Value				
Intercept	1	-14.915151	1.792366	-8.32
waist_girth	1	1.089311	0.023098	47.16

Best 10 Entry Candidates			
Rank	Effect	C(p)	
1	waist_girth	1633.2685	
2	chest_girth	1756.2493	
3	bicep	2424.4922	
4	chest_diam	3144.6458	
5	wrist_girth	3488.8326	
6	elbow_diam	3762.0572	
7	knee_girth	3926.5408	
8	wrist_diam	4432.5929	
9	ankle_girth	4462.6116	
10	knee_diam	4466.1290	

Effect Entered: knee_girth

Analysis of Variance				
Source	Sum of Mean Squares Square F Valu			
Model	2	77316	38658	1927.06
Error	480	9629.13358	20.06069	
Corrected Total	482	86945		

Root MSE	4.47892
Dependent Mean	68.73375
R-Square	0.8893
Adj R-Sq	0.8888
AIC	1936.39290
AICC	1936.47658
BIC	1448.79460
C(p)	838.61966
SBC	1463.93295

Parameter Estimates					
Parameter DF Estimate Standard Error t Value					
Intercept	1	-57.461592	2.869340	-20.03	
waist_girth	1	0.815805	0.024297	33.58	
knee_girth	1	1.758668	0.103156	17.05	

Bes	Best 10 Entry Candidates			
Rank	Effect	C(p)		
1	knee_girth	838.6197		
2	height	886.9025		
3	knee_diam	911.6247		
4	elbow_diam	1015.5915		
5	bicep	1029.3753		
6	wrist_girth	1062.0712		
7	ankle_girth	1067.7097		
8	chest_girth	1111.2695		
9	wrist_diam	1190.0144		
10	chest_diam	1208.6904		

Effect Entered: height

Analysis of Variance				
Source	Sum of Mean Squares F Value			
Model	3	80636	26879	2040.53
Error	479	6309.56377	13.17237	
Corrected Total	482	86945		

Root MSE	3.62938
Dependent Mean	68.73375
R-Square	0.9274
Adj R-Sq	0.9270
AIC	1734.21590
AICC	1734.34168
BIC	1247.31142
C(p)	387.06989
SBC	1265.93596

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	-96.918339	3.403490	-28.48
waist_girth	1	0.704397	0.020902	33.70
knee_girth	1	1.436396	0.086020	16.70
height	1	0.349510	0.022017	15.87

Best 10 Entry Candidates			
Rank	Effect	C(p)	
1	height	387.0699	
2	chest_girth	403.1435	
3	bicep	451.1386	
4	elbow_diam	473.9950	
5	chest_diam	564.7638	
6	wrist_girth	569.7083	
7	wrist_diam	607.8796	
8	ankle_diam	611.4188	

The GLMSELECT Procedure Stepwise Selection: Step 3 Effect Entered: height

Bes	Best 10 Entry Candidates		
Rank	Effect C(p)		
9	knee_diam	645.8703	
10	ankle_girth	734.0384	

Effect Entered: bicep

Analysis of Variance					
Source DF Sum of Mean Square F Value					
Model	4	82315	20579	2124.59	
Error	478	4629.92559	9.68604		
Corrected Total	482	86945			

Root MSE	3.11224
Dependent Mean	68.73375
R-Square	0.9467
Adj R-Sq	0.9463
AIC	1586.71496
AICC	1586.89143
BIC	1101.23850
C(p)	159.58247
SBC	1122.61504

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	-91.505487	2.947343	-31.05
waist_girth	1	0.507079	0.023362	21.71
bicep	1	0.794075	0.060301	13.17
knee_girth	1	1.309134	0.074394	17.60
height	1	0.289311	0.019425	14.89

Best 10 Entry Candidates			
Rank	Effect	C(p)	
1	bicep	159.5825	
2	chest_girth	165.3613	
3	chest_diam	289.5444	
4	knee_diam	312.7507	
5	elbow_diam	313.3219	
6	wrist_girth	331.4051	
7	age	337.3935	
8	wrist_diam	349.6624	

The GLMSELECT Procedure Stepwise Selection: Step 4 Effect Entered: bicep

Best 10 Entry Candidates			
Rank	Effect C(p)		
9	ankle_girth	359.6258	
10	ankle_diam	361.3870	

Effect Entered: chest_girth

Analysis of Variance					
Source DF Sum of Mean Square F Value					
Model	5	82593	16519	1810.37	
Error	477	4352.36515	9.12446		
Corrected Total	482	86945			

Root MSE	3.02067
Dependent Mean	68.73375
R-Square	0.9499
Adj R-Sq	0.9494
AIC	1558.85523
AICC	1559.09102
BIC	1073.53147
C(p)	123.65964
SBC	1098.93533

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	-94.780166	2.921593	-32.44
chest_girth	1	0.237341	0.043033	5.52
waist_girth	1	0.414713	0.028189	14.71
bicep	1	0.481991	0.081408	5.92
knee_girth	1	1.361737	0.072832	18.70
height	1	0.266193	0.019314	13.78

Entry Candidates			
Rank	Effect	C(p)	
1	chest_girth	123.6596	
2	navel_girth	127.8383	
3	age	136.1204	
4	chest_diam	138.1117	
5	knee_diam	139.0277	
6	ankle_girth	155.9239	
7	wrist_girth	158.9421	

The GLMSELECT Procedure Stepwise Selection: Step 5 Effect Entered: chest_girth

Entry Candidates		
Rank	Effect	C(p)
8	ankle_diam	160.0105
9	elbow_diam	160.1450
10	wrist_diam	161.5032

Effect Entered: navel_girth

Analysis of Variance				
Source DF Sum of Square F Value				F Value
Model	6	82847	13808	1603.86
Error	476	4097.96398	8.60917	
Corrected Total	482	86945		

Root MSE	2.93414
Dependent Mean	68.73375
R-Square	0.9529
Adj R-Sq	0.9523
AIC	1531.76455
AICC	1532.06835
BIC	1046.80396
C(p)	90.90105
SBC	1076.02467

	Parameter Estimates			
Parameter	DF	DF Estimate Er		t Value
Intercept	1	-99.393539	2.962079	-33.56
chest_girth	1	0.240518	0.041804	5.75
waist_girth	1	0.331556	0.031365	10.57
navel_girth	1	0.125869	0.023155	5.44
bicep	1	0.510669	0.079251	6.44
knee_girth	1	1.233389	0.074581	16.54
height	1	0.287622	0.019170	15.00

Entry Candidates		
Rank	Effect	C(p)
1	navel_girth	90.9010
2	age	102.4749
3	knee_diam	103.4370
4	wrist_girth	119.2503
5	chest_diam	120.3407
6	ankle_girth	121.2755

The GLMSELECT Procedure Stepwise Selection: Step 6 Effect Entered: navel_girth

	Entry Candidates		
Rank	Effect C(p)		
7	wrist_diam	125.1226	
8	ankle_diam	125.4667	
9	elbow_diam	125.6583	

Effect Entered: age

Analysis of Variance				
Source DF Sum of Mean Square F Value				
Model	7	83146	11878	1484.92
Error	475	3799.55473	7.99906	
Corrected Total	482	86945		

,	
Root MSE	2.82826
Dependent Mean	68.73375
R-Square	0.9563
Adj R-Sq	0.9557
AIC	1497.24667
AICC	1497.62722
BIC	1013.12344
C(p)	52.12967
SBC	1045.68680

Parameter Estimates				
Parameter	DF	DF Estimate Standard Error		t Value
Intercept	1	-97.357382	2.874589	-33.87
chest_girth	1	0.231706	0.040321	5.75
waist_girth	1	0.372038	0.030951	12.02
navel_girth	1	0.158945	0.022967	6.92
bicep	1	0.480396	0.076552	6.28
knee_girth	1	1.148917	0.073208	15.69
age	1	-0.093408	0.015293	-6.11
height	1	0.285746	0.018481	15.46

Entry Candidates			
Rank	Effect	C(p)	
1	age	52.1297	
2	knee_diam	68.1835	
3	chest_diam	81.3047	
4	ankle_girth	88.3611	
5	wrist_girth	91.7118	

The GLMSELECT Procedure Stepwise Selection: Step 7 Effect Entered: age

Entry Candidates		
Rank	Effect	C(p)
6	elbow_diam	92.7077
7	wrist_diam	92.7527
8	ankle_diam	92.7873

Effect Entered: knee_diam

Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	8	83403	10425	1395.14
Error	474	3542.03367	7.47264	
Corrected Total	482	86945		

Root MSE	2.73361
Dependent Mean	68.73375
R-Square	0.9593
Adj R-Sq	0.9586
AIC	1465.34836
AICC	1465.81446
BIC	982.31321
C(p)	18.94480
SBC	1017.96851

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-100.430502	2.827279	-35.52	
knee_diam	1	0.911601	0.155287	5.87	
chest_girth	1	0.229358	0.038974	5.88	
waist_girth	1	0.376427	0.029925	12.58	
navel_girth	1	0.168817	0.022262	7.58	
bicep	1	0.389355	0.075598	5.15	
knee_girth	1	0.916396	0.081090	11.30	
age	1	-0.105772	0.014931	-7.08	
height	1	0.265925	0.018179	14.63	

Entry Candidates			
Rank	Effect	C(p)	
1	knee_diam	18.9448	
2	chest_diam	41.5228	
3	ankle_girth	49.3219	
4	elbow_diam	51.5103	

The GLMSELECT Procedure Stepwise Selection: Step 8 Effect Entered: knee_diam

Entry Candidates			
Rank	Effect	C(p)	
5	wrist_diam	51.6424	
6	ankle_diam	51.7482	
7	wrist_girth	54.1089	

Effect Entered: chest_diam

Analysis of Variance					
Source DF Sum of Mean Square F Value					
Model	9	83453	9272.58100	1255.93	
Error	473	3492.17095	7.38303		
Corrected Total	482	86945			

Root MSE	2.71717
Dependent Mean	68.73375
R-Square	0.9598
Adj R-Sq	0.9591
AIC	1460.50065
AICC	1461.06116
віс	977.74631
C(p)	14.13210
SBC	1017.30082

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-100.613581	2.811156	-35.79	
chest_diam	1	0.255661	0.098377	2.60	
knee_diam	1	0.844681	0.156486	5.40	
chest_girth	1	0.177066	0.043654	4.06	
waist_girth	1	0.366907	0.029969	12.24	
navel_girth	1	0.178581	0.022445	7.96	
bicep	1	0.406236	0.075424	5.39	
knee_girth	1	0.905572	0.080710	11.22	
age	1	-0.105740	0.014841	-7.12	
height	1	0.259716	0.018227	14.25	

The GLMSELECT Procedure Stepwise Selection: Step 9 Effect Entered: chest_diam

Entry Candidates				
Rank	Effect	C(p)		
1	chest_diam	14.1321		
2	ankle_girth	17.3074		
3	wrist_girth	19.7087		
4	ankle_diam	20.1016		
5	elbow_diam	20.8877		
6	wrist_diam	20.9418		

Effect Entered: ankle_girth

Analysis of Variance					
Source DF Sum of Mean Square F Value					
Model	10	83478	8347.82545	1136.43	
Error	472	3467.14546	7.34565		
Corrected Total	482	86945			

Root MSE	2.71029
Dependent Mean	68.73375
R-Square	0.9601
Adj R-Sq	0.9593
AIC	1459.02693
AICC	1459.69076
BIC	976.45747
C(p)	12.71289
SBC	1020.00711

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	
Intercept	1	-100.703193	2.804452	-35.91	
chest_diam	1	0.251597	0.098152	2.56	
knee_diam	1	0.831943	0.156242	5.32	
chest_girth	1	0.174582	0.043564	4.01	
waist_girth	1	0.365192	0.029908	12.21	
navel_girth	1	0.178616	0.022388	7.98	
bicep	1	0.391399	0.075661	5.17	
knee_girth	1	0.841356	0.087702	9.59	
ankle_girth	1	0.203025	0.109995	1.85	
age	1	-0.105815	0.014803	-7.15	
height	1	0.254424	0.018405	13.82	

The GLMSELECT Procedure Stepwise Selection: Step 10 Effect Entered: ankle_girth

Entry Candidates				
Rank	Effect C(p)			
1	ankle_girth	12.7129		
2	wrist_girth	15.0397		
3	ankle_diam	15.3194		
4	elbow_diam	15.9861		
5	wrist_diam	16.1014		

Effect Entered: wrist_girth

Analysis of Variance					
Source DF Sum of Mean Square F Value					
Model	11	83504	7591.24700	1038.87	
Error	471	3441.68291	7.30718		
Corrected Total	482	86945			

Root MSE	2.70318
Dependent Mean	68.73375
R-Square	0.9604
Adj R-Sq	0.9595
AIC	1457.46671
AICC	1458.24283
віс	975.11679
C(p)	11.23397
SBC	1022.62691

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	-100.396569	2.801918	-35.83
chest_diam	1	0.244906	0.097961	2.50
knee_diam	1	0.893683	0.159304	5.61
chest_girth	1	0.186753	0.043936	4.25
waist_girth	1	0.366552	0.029838	12.28
navel_girth	1	0.165498	0.023409	7.07
bicep	1	0.445243	0.080787	5.51
knee_girth	1	0.841814	0.087472	9.62
ankle_girth	1	0.284928	0.118155	2.41
wrist_girth	1	-0.419579	0.224770	-1.87
age	1	-0.100826	0.015004	-6.72
height	1	0.264330	0.019109	13.83

The GLMSELECT Procedure Stepwise Selection: Step 11 Effect Entered: wrist_girth

Entry Candidates				
Rank	Effect	C(p)		
1	wrist_girth	11.2340		
2	ankle_diam	12.3625		
3	elbow_diam	14.3760		
4	wrist_diam	14.4995		

The GLMSELECT Procedure

Stepwise Selection Summary				
Step	Effect Entered	Effect Removed	Number Effects In	СР
0	Intercept		1	11398.2700
1	waist_girth		2	1633.2685
2	knee_girth		3	838.6197
3	height		4	387.0699
4	bicep		5	159.5825
5	chest_girth		6	123.6596
6	navel_girth		7	90.9010
7	age		8	52.1297
8	knee_diam		9	18.9448
9	chest_diam		10	14.1321
10	ankle_girth		11	12.7129
11	wrist_girth		12	11.2340*
* Optimal Value of Criterion				

Selection stopped at a local minimum of the C(p) criterion.

Stop Details					
Candidate For Effect		Candidate C(p)		Compare C(p)	
Entry	ankle_diam	11.5187	>	11.2340	
Removal	wrist_girth	12.7129	>	11.2340	

The GLMSELECT Procedure Selected Model

The selected model is the model at the last step (Step 11).

Effects: Intercept chest_diam knee_diam chest_girth waist_girth navel_girth bicep knee_girth ankle_girth wrist_girth age height

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	
Model	11	83504	7591.24700	1038.87	
Error	471	3441.68291	7.30718		
Corrected Total	482	86945			

Root MSE	2.70318
Dependent Mean	68.73375
R-Square	0.9604
Adj R-Sq	0.9595
AIC	1457.46671
AICC	1458.24283
BIC	975.11679
C(p)	11.23397
SBC	1022.62691

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	-100.396569	2.801918	-35.83
chest_diam	1	0.244906	0.097961	2.50
knee_diam	1	0.893683	0.159304	5.61
chest_girth	1	0.186753	0.043936	4.25
waist_girth	1	0.366552	0.029838	12.28
navel_girth	1	0.165498	0.023409	7.07
bicep	1	0.445243	0.080787	5.51
knee_girth	1	0.841814	0.087472	9.62
ankle_girth	1	0.284928	0.118155	2.41
wrist_girth	1	-0.419579	0.224770	-1.87
age	1	-0.100826	0.015004	-6.72
height	1	0.264330	0.019109	13.83