The SAS System

The FREQ Procedure

BRAND				
BRAND	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	2140	68.39	2140	68.39
2	500	15.98	2640	84.37
3	266	8.50	2906	92.87
4	223	7.13	3129	100.00

The SAS System

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
P1	P1	3129	4.2682771	0.7812643	2.3125000	7.9553600
P2	P2	3129	3.4675616	0.4277321	1.9166700	5.5200900
P3	P3	3129	3.8382512	0.5601311	2.4062500	5.9375000
P4	P4	3129	3.3585808	0.4663803	1.8356000	23.8571400

The SAS System

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
D1	D1	3129	0.0811761	0.2731490	0	1.0000000
D2	D2	3129	0.0194950	0.1382791	0	1.0000000
D3	D3	3129	0.0121445	0.1095482	0	1.0000000
D4	D4	3129	0.0035155	0.0591968	0	1.0000000

The SAS System

The CONTENTS Procedure

Data Set Name	WORK.CAR	**Observations**	3129
Member Type	DATA	**Variables**	25
Engine	V9	**Indexes**	0
Created	04/27/2019 14:43:09	**Observation Length**	200
Last Modified	04/27/2019 14:43:09	**Deleted Observations**	0
Protection		**Compressed**	NO
Data Set Type		**Sorted**	NO
Label			
Data Representation	WINDOWS_64		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information	
Data Set Page Size	65536
Number of Data Set Pages	10
First Data Page	1
Max Obs per Page	327
Obs in First Data Page	309
Number of Data Set Repairs	0
ExtendObsCounter	YES
Filename	E:\SAS Temporary Files\mxg176230 _TD39912_SMVSASCLASSC_\car.sas7bdat
Release Created	9.0401M4
Host Created	X64_SR12R2
Owner Name	CAMPUS\mxg176230
File Size	704KB
File Size (bytes)	720896

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
20	AMT	Num	8	BEST.	AMT
4	BRAND	Num	8	BEST.	BRAND
9	D1	Num	8	BEST.	D1

10	D2	Num	8	BEST.	D2
11	D3	Num	8	BEST.	D3
12	D4	Num	8	BEST.	D4
13	F1	Num	8	BEST.	F1
14	F2	Num	8	BEST.	F2
15	F3	Num	8	BEST.	F3
16	F4	Num	8	BEST.	F4
18	FAMSIZE	Num	8	BEST.	FAMSIZE
1	HID	Num	8	BEST.	HID
17	INCOME	Num	8	BEST.	INCOME
22	L1	Num	8	BEST.	L1
23	L2	Num	8	BEST.	L2
24	L3	Num	8	BEST.	L3
25	L4	Num	8	BEST.	L4
5	P1	Num	8	BEST.	P1
6	P2	Num	8	BEST.	P2
7	P3	Num	8	BEST.	P3
8	P4	Num	8	BEST.	P4
21	Q	Num	8	BEST.	Q
2	STID	Num	8	BEST.	STID
19	TOTP	Num	8	BEST.	TOTP
3	WEEK	Num	8	BEST.	WEEK

The SAS System

Obs	pid	mode	p	d	f	c1	c2	c3	inc1	inc2	inc3	decision
1	1	1	3.68750	0	1	1	0	0	11	0	0	1
2	1	2	3.96449	0	0	0	1	0	0	11	0	0
3	1	3	4.11675	0	0	0	0	1	0	0	11	0
4	1	4	3.43006	0	0	0	0	0	0	0	0	0
5	2	1	3.03125	0	1	1	0	0	11	0	0	1
6	2	2	3.31108	0	0	0	1	0	0	11	0	0
7	2	3	3.26563	0	0	0	0	1	0	0	11	0
8	2	4	3.17671	0	0	0	0	0	0	0	0	0
9	3	1	4.80110	1	0	1	0	0	11	0	0	0
10	3	2	3.46733	0	0	0	1	0	0	11	0	0

The SAS System

The MDC Procedure

Conditional Logit Estimates

Algorithm converged.

Model Fit Summary	
Dependent Variable	decision
Number of Observations	3129
Number of Cases	12516
Log Likelihood	-2124
Log Likelihood Null (LogL(0))	-4338
Maximum Absolute Gradient	0.00255
Number of Iterations	16
Optimization Method	Dual Quasi-Newton
AIC	4266
Schwarz Criterion	4320

Discrete Response Profile			
Index	CHOICE	Frequency	Percent
0	1	2140	68.39
1	2	500	15.98
2	3	266	8.50
3	4	223	7.13

Goodness-of-Fit Measures		
Measure	Value	Formula
Likelihood Ratio (R)	4427.7	2 * (LogL - LogL0)
Upper Bound of R (U)	8675.4	- 2 * LogL0
Aldrich-Nelson	0.5859	R / (R+N)
Cragg-Uhler 1	0.7571	1 - exp(-R/N)
Cragg-Uhler 2	0.8076	(1-exp(-R/N)) / (1-exp(-U/N))
Estrella	0.8619	1 - (1-R/U)^(U/N)
Adjusted Estrella	0.8603	1 - ((LogL-K)/LogL0)^(-2/N*LogL0)
McFadden's LRI	0.5104	R / U

Veall-Zimmermann	0.7973	(R * (U+N)) / (U * (R+N))
N = # of observations, K = # of regressors		

The SAS System

The MDC Procedure

Conditional Logit Estimates

Parameter Estimates					
Parameter	DF	Estimate	Standard Error	t Value	Approx Pr > |t|
c1	1	3.1941	0.2158	14.80	<.0001
c2	1	0.1047	0.2144	0.49	0.6253
c3	1	0.6312	0.2503	2.52	0.0117
p	1	-1.8271	0.0642	-28.47	<.0001
d	1	0.2960	0.1693	1.75	0.0804
f	1	0.7168	0.0723	9.92	<.0001
inc1	1	0.1678	0.0301	5.58	<.0001
inc2	1	0.1299	0.0330	3.94	<.0001
inc3	1	0.0193	0.0386	0.50	0.6164