The LOGISTIC Procedure

Model Information

Data Set WORK.BTS201503REP Response Variable DepDelayClass Number of Response Levels 3 Model cumulative logit Optimization Technique Fisher's scoring

Number of Observations Read 504312 Number of Observations Used 504312

Response Profile

	Dep	
Ordered	Delay	Total
Value	Class	Frequency
1	0	408727
2	1	67709
3	2	27876

Probabilities modeled are cumulated over the lower Ordered Values.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Score Test for the Proportional Odds Assumption

Chi-Square DF Pr > ChiSq 7603.1494 <.0001 7

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	605132.11	501080.81
SC	605154.37	501180.99
-2 Log L	605128.11	501062.81

vigne - HW2 01:44 Sunday, April 28, 2019 2

The LOGISTIC Procedure

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	104065.302	7	<.0001
Score	107341.529	7	<.0001
Wald	83789.5781	7	<.0001

Analysis of Maximum Likelihood Estimates

				Standard	Wald	
Parameter		DF	Estimate	Error	Chi-Square	Pr > ChiSq
Intercept	0	1	2.5353	0.0129	38619.7240	<.0001
Intercept	1	1	4.3214	0.0147	86942.2186	<.0001
CRSDepTime		1	-0.00002	3.217E-7	2799.2503	<.0001
SeqNum		1	0.1029	0.00293	1235.4885	<.0001
ArrDelayLagIn	d	1	-0.9302	0.0105	7820.1443	<.0001
ArrDelayLag		1	-0.0254	0.000230	12125.5180	<.0001
ArrDelayLagCu	m	1	-0.00109	0.000114	90.9406	<.0001
ArrDelayLag2		1	-0.00482	0.000217	495.4155	<.0001
CancelledLag1		1	-0.7966	0.0285	782.7849	<.0001

Odds Ratio Estimates

	Point	95% Wa	ld
Effect	Estimate	Confidence	Limits
CRSDepTime	1.000	1.000	1.000
SeqNum	1.108	1.102	1.115
ArrDelayLagInd	0.394	0.386	0.403
ArrDelayLag	0.975	0.974	0.975
ArrDelayLagCum	0.999	0.999	0.999
ArrDelayLag2	0.995	0.995	0.996
CancelledLag1	0.451	0.426	0.477

Association of Predicted Probabilities and Observed Responses

Percent Concordant	77.5	Somers' D	0.563
Percent Discordant	21.3	Gamma	0.569
Percent Tied	1.2	Tau-a	0.181
Pairs	40955626379	С	0.781

vigne - HW2 01:44 Sunday, April 28, 2019 3

The LOGISTIC Procedure

Model Information

Data Set	WORK.BTS201503REP
Response Variable	DepDelayClass
Number of Response Levels	3
Model	cumulative logit
Optimization Technique	Fisher's scoring

Number of Observations Read 504312 Number of Observations Used 504312

Response Profile

Ordered Value	Dep Delay Class	Total Frequency
1	O	400721
2	1	67709
3	2	27876

Probabilities modeled are cumulated over the lower Ordered Values.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Score Test for the Proportional Odds Assumption

Chi-Square DF Pr > ChiSq 7603.1494 7 <.0001

Model Fit Statistics

		Intercept
	Intercept	and
Criterion	Only	Covariates
ATC	605132.11	501080.81
SC	605154.37	501180.99
-2 Log L	605128.11	501062.81

vigne - HW2 01:44 Sunday, April 28, 2019 4

The LOGISTIC Procedure

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	104065.302	7	<.0001
Score	107341.529	7	<.0001
Wald	83789.5781	7	<.0001

Analysis of Maximum Likelihood Estimates

Standard Wald

Parameter		DF	Estimate	Error	Chi-Square	Pr > ChiSq
Todoood	•		0 5050	0.0100	00010 7010	. 0001
Intercept	0	1	2.5353	0.0129	38619.7240	<.0001
Intercept	1	1	4.3214	0.0147	86942.2186	<.0001
CRSDepTime		1	-0.00002	3.217E-7	2799.2503	<.0001
SeqNum		1	0.1029	0.00293	1235.4885	<.0001
ArrDelayLagIn	d	1	-0.9302	0.0105	7820.1443	<.0001
ArrDelayLag		1	-0.0254	0.000230	12125.5180	<.0001
ArrDelayLagCu	m	1	-0.00109	0.000114	90.9406	<.0001
ArrDelayLag2		1	-0.00482	0.000217	495.4155	<.0001
CancelledLag1		1	-0.7966	0.0285	782.7849	<.0001

Odds Ratio Estimates

	Point	95% Wal	Ld
Effect	Estimate	Confidence	Limits
CRSDepTime	1.000	1.000	1.000
SeqNum	1.108	1.102	1.115
ArrDelayLagInd	0.394	0.386	0.403
ArrDelayLag	0.975	0.974	0.975
ArrDelayLagCum	0.999	0.999	0.999
ArrDelayLag2	0.995	0.995	0.996
CancelledLag1	0.451	0.426	0.477

Association of Predicted Probabilities and Observed Responses

Percent Concordant	77.5	Somers' D	0.563
Percent Discordant	21.3	Gamma	0.569
Percent Tied	1.2	Tau-a	0.181
Pairs	40955626379	С	0.781

vigne - HW2 01:44 Sunday, April 28, 2019 5

The LOGISTIC Procedure

Model Information

Data Set	WORK.BTS201503REP
Response Variable	DepDelayClass
Number of Response Levels	3
Model	cumulative logit

Optimization Technique Fisher's scoring

Number of Observations Read 493310 Number of Observations Used 493310

Response Profile

	рер	
rdered	Delav	

Total Value Class Frequency

1	0	397931
2	1	67613
3	2	27766

Probabilities modeled are cumulated over the lower Ordered Values.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Score Test for the Proportional Odds Assumption

Chi-Square	DF	Pr > ChiSq
7860.8324	7	<.0001

Model Fit Statistics

		Intercept
	Intercept	and
Criterion	Only	Covariates
AIC	599525.58	487288.86
SC	599547.80	487388.84
-2 Log L	599521.58	487270.86

vigne - HW2 01:44 Sunday, April 28, 2019 6

The LOGISTIC Procedure

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	112250.726	7	<.0001
Score	114726.908	7	<.0001
Wald	85724.4716	7	<.0001

Analysis of Maximum Likelihood Estimates

				Standard	Wald	
Parameter		DF	Estimate	Error	Chi-Square	Pr > ChiSq
Intercept	0	1	2.4947	0.0130	36849.3434	<.0001
Intercept	1	1	4.3540	0.0149	85451.8821	<.0001
CRSDepTime		1	-0.00002	3.313E-7	2495.5585	<.0001
SeqNum		1	0.0925	0.00307	909.1336	<.0001
ArrDelayLagIn	ıd	1	-0.8020	0.0108	5470.4248	<.0001
ArrDelayLag		1	-0.0304	0.000254	14324.5697	<.0001
ArrDelayLagCu	ım	1	-0.00124	0.000121	103.8380	<.0001
ArrDelayLag2		1	-0.00491	0.000233	444.6621	<.0001
CancelledLag1		1	-1.6966	0.0316	2886.8091	<.0001

Odds Ratio Estimates

	Point	95% Wa	ld
Effect	Estimate	Confidence	Limits
CRSDepTime	1.000	1.000	1.000
SeqNum	1.097	1.090	1.104
ArrDelayLagInd	0.448	0.439	0.458
ArrDelayLag	0.970	0.970	0.971
ArrDelayLagCum	0.999	0.999	0.999
ArrDelayLag2	0.995	0.995	0.996
CancelledLag1	0.183	0.172	0.195

Association of Predicted Probabilities and Observed Responses

Percent Concordant	78.0	Somers' D	0.572
Percent Discordant	20.8	Gamma	0.579
Percent Tied	1.1	Tau-a	0.187
Pairs	39831603407	С	0.786

vigne - HW2 01:44 Sunday, April 28, 2019 7

The CATMOD Procedure

Data Summary

Response	DepDelayClass	Response Levels	3
Weight Variable	None	Populations	305791
Data Set	BTS201503REP	Total Frequency	504312
Frequency Missing	0	Observations	504312

One-Way Frequencies

Value	Frequency
0	408727
1	67709
2	27876
0	364607
1	139705
0	495812
1	8500
0:01	3
0:05	38
0:07	1
0:10	25
0:11	3
0:15	70
0:20	88
0:23	1
0:25	53
	0 1 2 0 1 0:01 0:05 0:07 0:10 0:11 0:15 0:20 0:23

0:27	48
0:28	1
0:29	25
0:30	236
0:33	1
0:35	61
0:38	25
0:40	87
0:45	105
0:46	3
0:47	31
0:49	17
0:50	105
0:51	6
0:52	26
0:53	2
0:55	99
0:56	1

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	0:58	7
	0:59	80
	1:00	64
	1:01	23
	1:02	1
	1:05	36
	1:07	1
	1:10	31
	1:11	1
	1:12	4
	1:14	24
	1:15	42
	1:20	58
	1:25	13
	1:29	3
	1:30	34
	1:40	1
	1:44	30
	1:45	31
	1:48	1
	1:49	3
	1:50	26
	1:55	55
	1:59	7
	2:00	7
	2:05	43
	2:15	7
	2:19	2
	2:35	7
	2:38	16

2:50	9
2:55	5
3:05	1
3:06	3
3:10	10
3:20	3
3:25	1
3:27	20
3:28	1
3:35	21
3:38	3
3:44	1
3:45	1
3:50	1
4:00	1

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	4:10	3
	4:20	7
	4:25	4
	4:27	5
	4:29	21
	4:30	21
	5:00	506
	5:01	40
	5:02	9
	5:03	5
	5:04	21
	5:05	134
	5:08	6
	5:10	192
	5:11	2
	5:13	1
	5:15	541
	5:16	29
	5:19	22
	5:20	433
	5:21	29
	5:22	7
	5:23	35
	5:25	470
	5:26	5
	5:27	3
	5:28	50
	5:29	40
	5:30	966
	5:31	6
	5:33	3
	5:34	20
	5:35	582

5:36	33
5:37	29
5:39	31
5:40	919
5:41	5
5:42	31
5:43	33
5:44	31
5:45	1440
5:46	56
5:47	54
5:48	7

One-Way Frequencies

	•	
Variable	Value	Frequency
CRSDepTime	5:49	67
	5:50	984
	5:51	27
	5:52	14
	5:53	67
	5:54	22
	5:55	656
	5:56	63
	5:57	25
	5:58	111
	5:59	189
	6:00	10504
	6:01	115
	6:02	263
	6:03	111
	6:04	146
	6:05	2123
	6:06	146
	6:07	165
	6:08	54
	6:09	164
	6:10	1573
	6:11	73
	6:12	130
	6:13	63
	6:14	81
	6:15	2484
	6:16	155
	6:17	80
	6:18	96
	6:19	81
	6:20	1743
	6:21	178
	6:22	119
	6:23	18
	6:24	145

6:25	1896
6:26	145
6:27	48
6:28	108
6:29	135
6:30	3096
6:31	84
6:32	104
6:33	101

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	6:34	97
	6:35	1279
	6:36	59
	6:37	146
	6:38	38
	6:39	36
	6:40	1637
	6:41	83
	6:42	77
	6:43	126
	6:44	75
	6:45	2338
	6:46	36
	6:47	46
	6:48	63
	6:49	41
	6:50	1432
	6:51	21
	6:52	185
	6:53	39
	6:54	114
	6:55	1151
	6:56	43
	6:57	53
	6:58	194
	6:59	394
	7:00	7215
	7:01	102
	7:02	125
	7:03	203
	7:04	120
	7:05	1783
	7:06	120
	7:07	131
	7:08	162
	7:09	49
	7:10	1426
	7:11	112
	7:12	116

7:13	45
7:14	205
7:15	2007
7:16	97
7:17	78
7:18	73

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	7:19	94
	7:20	2100
	7:21	132
	7:22	161
	7:23	47
	7:24	152
	7:25	1969
	7:26	69
	7:27	166
	7:28	123
	7:29	303
	7:30	3656
	7:31	210
	7:32	110
	7:33	30
	7:34	184
	7:35	1179
	7:36	133
	7:37	141
	7:38	170
	7:39	163
	7:40	1303
	7:41	39
	7:42	196
	7:43	57
	7:44	159
	7:45	1635
	7:46	123
	7:47	18
	7:48	114
	7:49	77
	7:50	1602
	7:51	59
	7:52	74
	7:53	108
	7:54	44
	7:55	1509
	7:56	73
	7:57	157
	7:58	110
	7:59	442
	8:00	4727

8:01	98	
8:02	102	
8:03	141	

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	8:04	152
	8:05	1403
	8:06	158
	8:07	131
	8:08	98
	8:09	104
	8:10	1872
	8:11	134
	8:12	234
	8:13	38
	8:14	212
	8:15	1934
	8:16	129
	8:17	38
	8:18	139
	8:19	135
	8:20	1734
	8:21	271
	8:22	143
	8:23	114
	8:24	70
	8:25	1750
	8:26	90
	8:27	199
	8:28	90
	8:29	144
	8:30	2978
	8:31	192
	8:32	77
	8:33	59
	8:34	104
	8:35	1976
	8:36	158
	8:37	186
	8:38	100
	8:39	137
	8:40	1962
	8:41	159
	8:42	167
	8:43	64
	8:44	162
	8:45	2831
	8:46	162
	8:47	106
	8:48	231

vigne - HW2

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	8:49	181
	8:50	1908
	8:51	238
	8:52	112
	8:53	141
	8:54	158
	8:55	1657
	8:56	129
	8:57	91
	8:58	70
	8:59	288
	9:00	3291
	9:01	220
	9:02	149
	9:03	58
	9:04	270
	9:05	2045
	9:06	181
	9:07	156
	9:08 9:09	139
	9:09	145 1619
	9:10	203
	9:12	203
	9:12	179
	9:14	133
	9:15	1807
	9:16	174
	9:17	206
	9:18	93
	9:19	155
	9:20	1666
	9:21	6
	9:22	96
	9:23	95
	9:24	136
	9:25	1238
	9:26	90
	9:27	82
	9:28	200
	9:29	255
	9:30	2173
	9:31	190
	9:32	177
	9:33	57

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	9:34	62
	9:35	1166
	9:36	84
	9:37	78
	9:38	86
	9:39	271
	9:40	1939
	9:41	183
	9:42	154
	9:43	118
	9:44	227
	9:45	1608
	9:46	119
	9:47	208
	9:48	94
	9:49	170
	9:50	1452
	9:51	169
	9:52	107
	9:53	223
	9:54	155
	9:55	1698
	9:56	263
	9:57	100
	9:58	265
	9:59	521
	10:00	3134
	10:01	123
	10:02	186
	10:03	112
	10:04	185
	10:05	1823
	10:06	235
	10:07	237
	10:08	208
	10:09	201
	10:10	1556
	10:11	194
	10:12	220
	10:13	214
	10:14	248
	10:15	2764
	10:16	148
	10:17	154
	10:18	227

vigne - HW2 01:44 Sunday, April 28, 2019 16

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	10:19	319
,	10:20	1716
	10:21	153
	10:22	148
	10:23	140
	10:24	196
	10:25	2030
	10:26	273
	10:27	222
	10:28	275
	10:29	229
	10:30	2249
	10:31	214
	10:32	96
	10:33	143
	10:34	158
	10:35	1247
	10:36	117
	10:37	110
	10:38	280
	10:39	143
	10:40	1489
	10:41	204
	10:42	63
	10:43	99
	10:44	208
	10:45	1534
	10:46	136
	10:47	149
	10:48	156
	10:49	377
	10:50	1615
	10:51	337
	10:52	257
	10:53	125
	10:54	96
	10:55	1497
	10:56	234
	10:57	202
	10:58	294
	10:59	264
	11:00	2704
	11:01	220
	11:02	294
	11:03	211
_		

vigne - HW2

01:44 Sunday, April 28, 2019 17

One-Way Frequencies

Variable Value Frequency

CRSDepTime	11:04	185
	11:05	1629
	11:06	376
	11:07	210
	11:08	148
	11:09	225
	11:10	1502
	11:11	164
	11:12	372
	11:13	180
	11:14	251
	11:15	1756
	11:16	218
	11:17	119
	11:18	181
	11:19	231
	11:20	1490
	11:21	226
	11:22	386
	11:23	166
	11:24	194
	11:25	1640
	11:26	120
	11:27	189
	11:28	108
	11:29	246
	11:30	2534
	11:31	203
	11:32	246
	11:33	224
	11:34	235
	11:35	1807
	11:36	201
	11:37	97
	11:38	101
	11:39	196
	11:40	1341
	11:41	236
	11:42	212
	11:43	98
	11:44	253
	11:45	2018
	11:46	176
	11:47	200
	11:48	167

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	11:49 11:50 11:51	236 1625 242

11:52	73
11:53	163
11:54	170
11:55	1231
11:56	156
11:57	94
11:58	120
11:59	275
12:00	2958
12:01	165
12:02	150
12:03	140
12:04	295
12:05	2220
12:06	327
12:07	115
12:08	137
12:09	287
12:10	1595
12:11	89
12:12	178
12:13	146
12:14	78
12:15	1898
12:16	152
12:17	124
12:18	166
12:19	95
12:20	1617
12:21	41
12:22	84
12:23	278
12:24	87
12:25	1152
12:26	163
12:27	182
12:28	99
12:29	187
12:30	1954
12:31	243
12:32	84
12:33	180

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	12:34	70
	12:35	1538
	12:36	131
	12:37	238
	12:38	86
	12:39	109

12:40	1655
12:41	223
12:42	132
12:43	152
12:44	253
12:45	1673
12:46	188
12:47	166
12:48	220
12:49	171
12:50	1662
12:51	195
12:52	159
12:53	195
12:54	143
12:55	1517
12:56	184
12:57	249
12:58	247
12:59	360
13:00	2911
13:01	172
13:02	210
13:03	162
13:04	414
13:05	1660
13:06	239
13:07	216
13:08	223
13:09	147
13:10	1692
13:11	134
13:12	162
13:13	137
13:14	160
13:15	1924
13:16	144
13:17	265
13:18	52

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	13:19	190
	13:20	1556
	13:21	150
	13:22	154
	13:23	198
	13:24	174
	13:25	1903
	13:26	196
	13:27	189

13:28	170
13:29	224
13:30	2087
13:31	237
13:32	248
13:33	154
13:34	50
13:35	1706
13:36	100
13:37	184
13:38	174
13:39	292
13:40	1776
13:41	283
13:42	237
13:43	93
13:44	310
13:45	2683
13:46	168
13:47	130
13:48	155
13:49	217
13:50	1559
13:51	244
13:52	250
13:53	226
13:54	181
13:55	2317
13:56	186
13:57	246
13:58	130
13:59	463
14:00	2344
14:01	154
14:02	285
14:03	129

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	14:04	141
	14:05	1392
	14:06	144
	14:07	119
	14:08	209
	14:09	66
	14:10	1361
	14:11	342
	14:12	172
	14:13	144
	14:14	225
	14:15	1272

14:16	162
14:17	190
14:18	165
14:19	211
14:20	1183
14:21	122
14:22	251
14:23	118
14:24	133
14:25	1532
14:26	217
14:27	123
14:28	89
14:29	198
14:30	2106
14:31	165
14:32	218
14:33	231
14:34	147
14:35	1370
14:36	323
14:37	254
14:38	304
14:39	143
14:40	1315
14:41	164
14:42	138
14:43	151
14:44	194
14:45	1581
14:46	141
14:47	91
14:48	154

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	14:49	278
	14:50	1531
	14:51	127
	14:52	128
	14:53	79
	14:54	439
	14:55	1730
	14:56	250
	14:57	244
	14:58	137
	14:59	499
	15:00	2647
	15:01	228
	15:02	192
	15:03	115

15:04	162
15:05	1518
15:06	182
15:07	182
15:08	105
15:09	296
15:10	1852
15:11	215
15:12	154
15:13	157
15:14	219
15:15	1506
15:16	150
15:17	287
15:18	133
15:19	183
15:20	1605
15:21	150
15:22	137
15:23	161
15:24	124
15:25	1668
15:26	62
15:27	217
15:28	99
15:29	486
15:30	2723
15:31	169
15:32	233
15:33	79

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	15:34	101
	15:35	2275
	15:36	228
	15:37	151
	15:38	223
	15:39	157
	15:40	1886
	15:41	122
	15:42	317
	15:43	206
	15:44	223
	15:45	1661
	15:46	209
	15:47	148
	15:48	182
	15:49	178
	15:50	1356
	15:51	73

15:52	156
15:53	152
15:54	133
15:55	1725
15:56	131
15:57	137
15:58	220
15:59	390
16:00	2409
16:01	286
16:02	103
16:03	119
16:04	128
16:05	1541
16:06	180
16:07	73
16:08	164
16:09	157
16:10	1929
16:11	146
16:12	141
16:13	133
16:14	252
16:15	1718
16:16	280
16:17	156
16:18	216

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	16:19	161
	16:20	1524
	16:21	147
	16:22	88
	16:23	103
	16:24	152
	16:25	1306
	16:26	319
	16:27	151
	16:28	204
	16:29	321
	16:30	2260
	16:31	286
	16:32	250
	16:33	141
	16:34	219
	16:35	1455
	16:36	183
	16:37	212
	16:38	164
	16:39	234

16:40	1669
16:41	142
16:42	136
16:43	213
16:44	196
16:45	1473
16:46	112
16:47	285
16:48	273
16:49	254
16:50	1549
16:51	134
16:52	156
16:53	72
16:54	219
16:55	1475
16:56	21
16:57	104
16:58	363
16:59	437
17:00	2715
17:01	149
17:02	168
17:03	208

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	17:04	181
	17:05	2010
	17:06	359
	17:07	133
	17:08	242
	17:09	169
	17:10	1569
	17:11	154
	17:12	187
	17:13	148
	17:14	73
	17:15	2070
	17:16	245
	17:17	258
	17:18	162
	17:19	203
	17:20	1624
	17:21	284
	17:22	260
	17:23	242
	17:24	156
	17:25	2037
	17:26	119
	17:27	159

17:28	197
17:29	415
17:30	2103
17:31	242
17:32	255
17:33	294
17:34	168
17:35	1718
17:36	204
17:37	312
17:38	152
17:39	220
17:40	2000
17:41	315
17:42	302
17:43	338
17:44	360
17:45	2484
17:46	264
17:47	170
17:48	205

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	17:49	198
	17:50	1569
	17:51	32
	17:52	266
	17:53	199
	17:54	270
	17:55	1825
	17:56	111
	17:57	281
	17:58	191
	17:59	576
	18:00	2292
	18:01	104
	18:02	71
	18:03	82
	18:04	111
	18:05	1861
	18:06	235
	18:07	121
	18:08	87
	18:09	202
	18:10	1667
	18:11	202
	18:12	214
	18:13	89
	18:14	37
	18:15	1770

18:16	147
18:17	167
18:18	133
18:19	174
18:20	1494
18:21	268
18:22	92
18:23	106
18:24	161
18:25	1559
18:26	83
18:27	72
18:28	193
18:29	287
18:30	1916
18:31	278
18:32	145
18:33	69

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	18:34	94
	18:35	1273
	18:36	81
	18:37	57
	18:38	118
	18:39	103
	18:40	1401
	18:41	121
	18:42	179
	18:43	124
	18:44	235
	18:45	1748
	18:46	97
	18:47	113
	18:48	200
	18:49	181
	18:50	2142
	18:51	92
	18:52	219
	18:53	136
	18:54	180
	18:55	1945
	18:56	187
	18:57	156
	18:58	186
	18:59	583
	19:00	2574
	19:01	174
	19:02	194
	19:03	215

19:04	245
19:05	1496
19:06	186
19:07	362
19:08	212
19:09	131
19:10	1472
19:11	268
19:12	230
19:13	145
19:14	219
19:15	1473
19:16	230
19:17	89
19:18	272

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	19:19	131
	19:20	1754
	19:21	163
	19:22	78
	19:23	45
	19:24	182
	19:25	1287
	19:26	139
	19:27	137
	19:28	147
	19:29	196
	19:30	2096
	19:31	175
	19:32	183
	19:33	142
	19:34	123
	19:35	1669
	19:36	245
	19:37	215
	19:38	224
	19:39	142
	19:40	1398
	19:41	172
	19:42	198
	19:43	159
	19:44	146
	19:45	2253
	19:46	155
	19:47	65
	19:48	138
	19:49	179
	19:50	1920
	19:51	138

19:52	144
19:53	111
19:54	106
19:55	2112
19:56	194
19:57	203
19:58	169
19:59	534
20:00	2209
20:01	89
20:02	175
20:03	135

One-Way Frequencies

	•	
Variable	Value	Frequency
CRSDepTime	20:04	112
	20:05	1692
	20:06	148
	20:07	89
	20:08	114
	20:09	109
	20:10	1456
	20:11	45
	20:12	63
	20:13	52
	20:14	77
	20:15	1526
	20:16	99
	20:17	68
	20:18	138
	20:19	117
	20:20	1405
	20:21	70
	20:22	62
	20:23	130
	20:24	103
	20:25	1271
	20:26	120
	20:27	49
	20:28	55
	20:29	132
	20:30	1697
	20:31	121
	20:32	66
	20:33	17
	20:34	92
	20:35	1496
	20:36	133
	20:37	71
	20:38	101
	20:39	95

20:40	1119
20:41	129
20:42	124
20:43	79
20:44	84
20:45	1400
20:46	112
20:47	39
20:48	89

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	20:49	39
•	20:50	1506
	20:51	131
	20:52	81
	20:53	91
	20:54	72
	20:55	1392
	20:56	35
	20:57	70
	20:58	74
	20:59	230
	21:00	1452
	21:01	204
	21:02	102
	21:03	57
	21:04	146
	21:05	1244
	21:06	118
	21:07	58
	21:08	151
	21:09	182
	21:10	954
	21:11	88
	21:12	279
	21:13	48
	21:14	92
	21:15	1300
	21:16	128
	21:17	199
	21:18	15
	21:19	86
	21:20	806
	21:21	19
	21:22	53
	21:23	27
	21:24	48
	21:25	838
	21:26	16
	21:27	42

21:28	15
21:29	130
21:30	1025
21:31	7
21:32	1
21:33	3

The CATMOD Procedure

One-Way Frequencies

CRSDepTime 21:34 15 21:35 981 21:36 34 21:37 29 21:38 7 21:39 6 21:40 994 21:41 100 21:42 73 21:43 39 21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:55 1616 21:57 36 21:58 92 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:11 97 22:12 57 22:11 97 22:12 57 22:11 97 22:12 57 22:13 57 22:14 40	Variable	Value	Frequency
21:36 34 21:37 29 21:38 7 21:39 6 21:40 994 21:41 100 21:42 73 21:43 39 21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:01 247 22:02 83 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:09 99 22:10 743	CRSDepTime	21:34	15
21:37 29 21:38 7 21:39 6 21:40 994 21:41 100 21:42 73 21:43 39 21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57		21:35	981
21:38 7 21:39 6 21:40 994 21:41 100 21:42 73 21:43 39 21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57		21:36	34
21:39 6 21:40 994 21:41 100 21:42 73 21:43 39 21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:37	29
21:40 994 21:41 100 21:42 73 21:43 39 21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:57 36 21:58 92 21:59 248 22:01 247 22:02 83 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40 <td>21:38</td> <td>7</td>		21:38	7
21:41 100 21:42 73 21:43 39 21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:39	6
21:42 73 21:43 39 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:01 247 22:02 83 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:40	994
21:43 39 21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:41	100
21:44 36 21:45 1141 21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:01 247 22:02 83 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:42	73
21:45 1141 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:43	39
21:46 76 21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:44	36
21:47 152 21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:45	1141
21:48 108 21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:46	76
21:49 214 21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:47	152
21:50 1376 21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:48	108
21:51 66 21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:49	214
21:52 84 21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:50	1376
21:53 84 21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:51	66
21:54 88 21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:52	84
21:55 1616 21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:53	84
21:56 164 21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:54	88
21:57 36 21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:55	1616
21:58 92 21:59 248 22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:56	164
21:59		21:57	36
22:00 1346 22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:58	92
22:01 247 22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		21:59	248
22:02 83 22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:00	1346
22:03 55 22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:01	247
22:04 81 22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:02	83
22:05 932 22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:03	55
22:06 93 22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:04	81
22:07 82 22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:05	932
22:08 29 22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:06	93
22:09 99 22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:07	82
22:10 743 22:11 97 22:12 57 22:13 57 22:14 40		22:08	29
22:11 97 22:12 57 22:13 57 22:14 40		22:09	99
22:12 57 22:13 57 22:14 40		22:10	743
22:13 57 22:14 40		22:11	97
22:14 40		22:12	57
		22:13	57
22:15 634		22:14	40
		22:15	634

22:16	33
22:17	32
22:18	40

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	22:19	62
'	22:20	592
	22:21	41
	22:22	5
	22:23	76
	22:24	4
	22:25	514
	22:26	53
	22:27	20
	22:28	9
	22:29	29
	22:30	691
	22:31	7
	22:32	4
	22:33	41
	22:34	101
	22:35	250
	22:36	65
	22:37	38
	22:38	58
	22:39	98
	22:40 22:41	183 11
	22:41	3
	22:42	26
	22:43	54
	22:45	520
	22:46	2
	22:47	5
	22:48	20
	22:49	54
	22:50	525
	22:51	29
	22:52	28
	22:53	68
	22:54	79
	22:55	454
	22:56	115
	22:57	38
	22:58	12
	22:59	163
	23:00	195
	23:01	14
	23:03	6
	23:04	21

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	23:05	238
•	23:06	5
	23:07	7
	23:08	4
	23:09	25
	23:10	91
	23:11	23
	23:12	7
	23:13	7
	23:14	3
	23:15	176
	23:16	2
	23:17	27
	23:18	27
	23:19	31
	23:20	152
	23:21	1
	23:22	3
	23:23	1
	23:24	4
	23:25	151
	23:28	2
	23:29	41
	23:30	163
	23:31	2
	23:32	4
	23:33	31
	23:35	24
	23:36	6
	23:38	14
	23:39	54
	23:40	180
	23:42	6
	23:43	23
	23:44	21
	23:45	143
	23:46	3
	23:47	16
	23:48	77
	23:49	38
	23:50	202
	23:51	2
	23:52	6
	23:53	10
	23:54	58

One-Way Frequencies

Variable	Value	Frequency
CRSDepTime	23:55	243
•	23:56	9
	23:57	65
	23:58	6
	23:59	543
SeqNum	1	116340
	2	107558
	3	92754
	4	75841
	5	52304
	6	33390
	7	13878
	8	7184
	9	1882
	10	992
	11	454
	12	337
	13	199
	14	98
	15 16	32
	17	24 22
	17	21
	19	21
	20	20
	21	20
	22	20
	23	19
	24	19
	25	19
	26	19
	27	18
	28	18
	29	16
	30	16
	31	15
	32	15
	33	15
	34	15
	35	15
	36	14
	37	13
	38	13
	39	13

vigne - HW2 01:44 Sunday, April 28, 2019 35

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
SeqNum	40	13
	41	13
	42	13
	43	13
	44	13
	45 46	12
	47	12 12
	48	12
	49	12
	50	11
	51	11
	52	10
	53	9
	54	9
	55	9
	56	9
	57	7
	58	7
	59	7
	60	7
	61 62	7 6
	63	6
	64	6
	65	5
	66	5
	67	5
	68	5
	69	5
	70	5
	71	5
	72	5
	73	5
	74	5
	75 70	5
	76	5
	77 78	5 4
	76 79	4
	80	4
	81	4
	82	4
	83	3
	84	3

vigne - HW2

01:44 Sunday, April 28, 2019 36

One-Way Frequencies

Variable Value Frequency

SeqNum	85	3
	86	3
	87	3
	88	3
	89	3
	90	3
	91	3
	92	3
	93	3
	94	3
	95	3
	96	3
	97	3
	98	3
	99	3
	100	3
	101	3
	102	3
	103	3
	104	3
	105	3
	106	3
	107	3
	108	3
	109	3
	110	3
	111	3
	112	2
	113	2
	114	2
	115	2
	116	2
	117	2
	118	2
	119	2
	120	2
	121	2
	122	2
	123	2
	124	2
	125	2
	126	2
	127	2
	128	2
	129	2

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
SeqNum	130	2
	131	2
	132	2

133	2
134	2
135	2
136	2
137	2
138	2
139	2
140	2
141	2
142	2
143	2
144	2
145	2
146	2
147	2
148	2
149	2
150	2
151	2
152	2
153	2
154	2
155	2
156	2
157	2
158	2
159	2
160	2
161	2
162	2
163	2
164	2
165	2
166	1
167	1
168	1
169	1
170	1
171	1
172	1
173	1
174	1

One-Way Frequencies

Variable	Value	Frequency
SeqNum	175	1
	176	1
	177	1
	178	1
	179	1
	180	1

181	1
182	1
183	1
184	1
185	1
186	1
187	1
188	1
189	1
190	1
191	1
192	1
193	1
194	1
195	1
196	1
197	1
198	1
199	1
200	1
201	1
202	1
203	1
204	1
205	1
206	1
207	1
208	1
209	1
210	1
211	1
212	1
213	1
214	1
215	1
216	1
217	1
218	1 1
219	1

One-Way Frequencies

Variable	Value	Frequency
SeqNum	220	1
	221	1
	222	1
	223	1
	224	1
	225	1
	226	1
	227	1
	228	1

229	1
230	1
231	1
232	1
233	1
234	1
235	1
236	1
237	1
238	1
239	1
240	1
241	1
242	1
243	1
244	1
245	1
246	1
247	1
248	1
249	1
250	1
251	1
252	1
253	1
254	1
255	1
256	1
257	1
258	1
259	1
260	1
261	1
262	1
263	1
264	1

One-Way Frequencies

Variable	Value	Frequency
SeqNum	265	1
	266	1
	267	1
	268	1
	269	1
	270	1
	271	1
	272	1
	273	1
	274	1
	275	1
	276	1

	277	1
	278	1
	279	1
	280	1
	281	1
	282	1
	283	1
	284	1
	285	1
	286	1
	287	1
	288	1
ArrDelayLag	-78	1
	-74	1
	-73	1
	-72	1
	-71	3
	-70	1
	- 69	1
	-68	1
	-67	2
	-66	3
	-65	1
	-64	2
	-63	4
	-62	11
	-61	5
	-60	9
	- 59	17
	-58	15
	-57	19
	-56	17

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	-55	24
	-54	32
	-53	30
	-52	29
	-51	47
	-50	48
	- 49	60
	-48	65
	-47	69
	-46	97
	-45	111
	-44	134
	-43	158
	-42	170
	-41	198

-40	237
-39	301
-38	355
-37	432
-36	495
-35	549
-34	720
-33	790
-32	944
-31	1141
-30	1382
-29	1597
-28	1782
-27	2084
-26	2461
-25	2876
-24	3311
-23	3821
-22	4393
-21	4902
-20	5457
-19	6128
-18	6934
-17	7608
-16	8183
-15	8927
-14	9611
-13	10262
-12	10756
-11	11068

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	-10	11355
	-9	11533
	-8	11777
	-7	11661
	-6	11474
	-5	11173
	- 4	10771
	-3	10370
	-2	9845
	- 1	9182
	0	134572
	1	8171
	2	7500
	3	7197
	4	6464
	5	6108
	6	5626
	7	5147

8	4685
9	4365
10	4037
11	3672
12	3469
13	3343
14	3116
15	2753
16	2582
17	2430
18	2289
19	2112
20	2001
21	1856
22	1863
23	1740
24	1634
25	1468
26	1416
27	1388
28	1332
29	1199
30	1260
31	1101
32	1079
33	1050
34	936

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	35	998
	36	871
	37	845
	38	826
	39	812
	40	762
	41	728
	42	706
	43	673
	44	620
	45	584
	46	644
	47	594
	48	558
	49	544
	50	557
	51	520
	52	491
	53	443
	54	452
	55	471

56	420
57	413
58	412
59	431
60	384
61	372
62	355
63	372
64	327
65	358
66	324
67	304
68	286
69	288
70	273
71	255
72	266
73	297
74	260
75	239
76	236
77	222
78	208
79	225

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	80	239
	81	203
	82	201
	83	200
	84	226
	85	188
	86	184
	87	178
	88	186
	89	172
	90	159
	91	172
	92	175
	93	154
	94	169
	95	146
	96	144
	97	149
	98	151
	99	134
	100	147
	101	149
	102	129
	103	138

104	119
105	136
106	123
107	126
108	132
109	129
110	131
111	126
112	110
113	102
114	100
115	102
116	98
117	97
118	103
119	89
120	86
121	87
122	85
123	112
124	88

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	125	96
	126	74
	127	86
	128	95
	129	76
	130	85
	131	91
	132	60
	133	78
	134	80
	135	84
	136	86
	137	62
	138	69
	139	74
	140	68
	141	67
	142	63
	143	44
	144	77
	145	70
	146	57
	147	52
	148	66
	149	40
	150	47
	151	48

152	46
153	55
154	47
155	67
156	55
157	60
158	36
159	44
160	50
161	42
162	61
163	46
164	51
165	47
166	52
167	46
168	56
169	36

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	170	37
	171	38
	172	42
	173	47
	174	36
	175	28
	176	41
	177	45
	178	45
	179	30
	180	35
	181	29
	182	48
	183	33
	184	38
	185	37
	186	31
	187	34
	188	32
	189	29
	190	21
	191	30
	192	31
	193	26
	194	28
	195	43
	196	22
	197	24
	198	29
	199	24

200	30
201	24
202	23
203	25
204	20
205	20
206	20
207	21
208	25
209	19
210	24
211	22
212	22
213	14
214	24

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	215	26
	216	18
	217	23
	218	22
	219	13
	220	13
	221	19
	222	15
	223	18
	224	16
	225	17
	226	11
	227	17
	228	20
	229	9
	230	16
	231	16
	232	11
	233	24
	234	20
	235	12
	236	15
	237	16
	238	12
	239	16
	240	14
	241	20
	242	6
	243	11
	244	11
	245	12
	246	9
	247	9

248	16
249	9
250	10
251	10
252	10
253	8
254	12
255	9
256	8
257	13
258	12
259	11

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	260	7
	261	8
	262	6
	263	15
	264	14
	265	14
	266	8
	267	11
	268	5
	269	7
	270	g
	271	9
	272	13
	273	6
	274	8
	275	10
	276	11
	277	11
	278	5
	279	7
	280	11
	281	10
	282	7
	283	4
	284	9
	285	6
	286	11
	287	7
	288	10
	289	2
	290	4
	291	5
	292	4
	293	8
	294	6
	295	7

296	10
297	6
298	4
299	7
300	6
301	5
302	5
303	2
304	6

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	305	3
	306	8
	307	6
	308	3
	309	4
	310	7
	311	6
	312	3
	313	10
	314	5
	315	1
	316	3
	317	12
	318	6
	319	3
	320	8
	321	6
	322	2
	323	5
	324	4
	325	2
	326	6
	327	5
	328	7
	329	2
	330	6
	331	5
	332	3
	333	4
	334	8
	335	4
	336	5
	337	3
	338	2
	339	7
	340	2
	341	4
	342	4
	343	2

344	4
345	3
346	3
347	1
348	1
349	4

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	350	4
	351	4
	352	1
	353	3
	354	6
	355	5
	356	4
	357	4
	358	4
	359	4
	360	2
	361	3
	362	7
	363	3
	364	6
	365	1
	366	3
	367	2
	368	1
	369	6
	370	2
	371	1
	372	2
	373	2
	374	5
	375	4
	376	5
	377	2
	378	2
	379	2
	380	4
	381	5
	382	1
	383	2
	384	1
	385	3
	386	1
	387	2
	388	6
	389	2
	390	1
	391	1

392	2
393	3
394	1

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	395	1
	396	2
	397	5
	398	4
	399	4
	400	3
	401	4
	402	1
	403	7
	404	1
	405	2
	406	2
	407	2
	409	2
	412	3
	413	4
	415	2
	416	3
	417	2
	419	3
	420	2
	422	5
	423	2
	424	2
	426	1
	429	5
	431	5 2
	432 433	1
	433	2
	434	2
	437	1
	439	1
	440	2
	441	1
	442	2
	443	1
	444	1
	445	1
	447	3
	448	1
	451	3
	452	3
	453	1
	455	1

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	456	2
	457	1
	458	1
	460	1
	466	2
	467	3
	468	1
	469	3
	471	3
	472	1
	473	1
	475	2
	477	1
	479	2
	480	4
	481	1
	485	1
	486	2
	488	1
	492	4
	493	3
	494	1
	495	1
	496	2
	497	1
	498	4
	499	1
	500	1
	501	1
	502	1
	511	1
	512	1
	513	2
	515	1
	518	1
	519	1
	520	1
	521	2
	522	1
	526	1
	527	1
	528	2
	529	2
	531	1
	532	1

One-Way Frequencies

ArrDelayLag 533 1 535 3 537 1 542 2 547 1 548 1 549 1 553 1 554 1 5557 1 560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 587 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 617 1 619 1 626 1 627 1 619 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 644 1 642 1 643 1 644 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1 727 1 733 1	Variable	Value	Frequency
537 1 542 2 547 1 548 1 549 1 553 1 554 1 557 1 560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1	ArrDelayLag	533	1
542 2 547 1 548 1 549 1 553 1 553 1 554 1 557 1 560 1 561 2 568 2 570 1 574 2 577 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1		535	3
547 1 548 1 549 1 553 1 554 1 557 1 560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1 727 1		537	1
548 1 549 1 553 1 554 1 557 1 560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 727 1 733 1		542	2
549 1 553 1 554 1 557 1 560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 642 1 643 1 644 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1 727 1 733 1		547	1
553 1 554 1 557 1 560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 659 1 714 1 721 1 723 1 727 1 733 1		548	1
554 1 557 1 560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 642 1 643 1 644 1 643 1 649 1 655 1 655 1 659 1 714 1 723 1 727 1 733 1		549	1
557 1 560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 655 1 655 1 659 1 714 1 723 1 727 1 733 1		553	1
560 1 561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 655 1 655 1 655 1 704 1 727 1 733 1		554	1
561 2 568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 655 1 655 1 655 1 721 1 723 1 727 1 733 1		557	
568 2 570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1 727 1 733 1		560	
570 1 574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1 727 1 733 1		561	2
574 2 577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 631 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1 727 1 733 1		568	
577 1 579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
579 1 580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1 727 1 733 1		574	
580 1 581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1 727 1 733 1		577	1
581 1 587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 723 1 727 1 733 1		579	1
587 1 592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1		580	1
592 1 597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1		581	
597 1 600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1		587	1
600 2 602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 723 1 727 1 733 1		592	
602 1 617 1 619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 723 1 727 1 733 1		597	1
617		600	
619 1 626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
626 1 627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
627 1 628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
628 1 631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
631 1 636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
636 1 640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
640 1 641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
641 1 642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
642 1 643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
643 1 649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
649 1 655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
655 1 656 1 659 1 714 1 721 1 723 1 727 1 733 1			
656 1 659 1 714 1 721 1 723 1 727 1 733 1			
659 1 714 1 721 1 723 1 727 1 733 1			
714 1 721 1 723 1 727 1 733 1			
721 1 723 1 727 1 733 1			
723 1 727 1 733 1			
727 1 733 1			
733 1			
736 1			
		736	1

vigne - HW2 01:44 Sunday, April 28, 2019 54

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag	738	1
	740	1
	744	1
	748	1
	749	1
	760	1
	763	1
	775	1
	785	1
	786	1
	788	1
	791	1
	794 - 25	1
	795	1
	821	1
	874	1
	883	1
	891 904	1
	904 946	
	946	1 1
	1002	1
	1002	1
	1033	1
	1120	1
	1170	1
	1211	1
	1360	1
ArrDelayLagCum	- 193	1
	- 181	2
	- 177	1
	- 176	1
	- 163	1
	- 162	2
	- 160	1
	- 155	1
	- 154	1
	- 153	1
	- 152	1
	- 151	2
	- 150	1
	-149	2
	-148	3
	- 147	2

vigne - HW2

01:44 Sunday, April 28, 2019 55

One-Way Frequencies

Variable Value Frequency

ArrDelayLagCum	- 146	2
	- 145	4
	- 144	3
	- 143	3
	- 142	1
	- 141	2
	- 140	2
	- 139	3
	- 138	4
	- 137	3
	- 136	7
	- 135	4
	- 134	5
	- 133	3
	- 132	g
	- 131	4
	- 130	7
	- 129	12
	- 128	10
	- 127	6
	- 126	4
	- 125	11
	- 124	11
	- 123	11
	- 122	12
	- 121	9
	- 120	17
	- 119	16
	-118	17
	-117	16
	- 116	22
	- 115	16
	-114	22
	-113	20
	-112	42
	-111	26
	- 110	28
	- 109	25
	- 108	38
	- 107	32
	- 106	39
	- 105	39
	- 104	54
	- 103	46
	- 102	65
	_	,,,

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	- 101	73
	- 100	88
	- 99	88

98	80
97	102
96	83
95	98
94	120
93	113
92	129
91	141
90	126
89	141
88	166
87	172
86	210
85	198
84	236
83	253
82	282
81	260
80	316
79	339
78	354
77	394
76	407
75	432
74	437
73	468
72	479
71	557
70	571
69	599
68	651
67	729
66	719
65	800
64	813
63	876
62	928
61	971
60	1015
59	1117
58	1161
57	1267

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	-56	1305
	-55	1370
	-54	1422
	-53	1534
	-52	1600
	-51	1596

-50	1729
-49	1815
-48	1900
-47	1918
-46	2069
- 45	2139
-44	2365
- 43	2322
-42	2444
-41	2594
-40	2655
-39	2784
-38	2877
-37	3061
-36	3241
-35	3286
-34	3536
-33	3632
-32	3698
-31	3852
-30	4006
-29	4068
-28	4378
-27	4404
-26	4613
-25	4708
-24	4959
-23	5237
-22	5389
-21	5455
-20	5598
-19	5770
-18	5885
- 17	6193
-16	6236
-15	6469
-14	6496
-13	6644
-12	6712

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	-11	6593
	-10	6438
	-9	6456
	-8	6486
	-7	6152
	-6	6052
	-5	6004
	- 4	5670
	-3	5469

-2	5100
- 1	4920
0	125697
1	4357
2	4172
3	3953
4	3595
5	3569
6	3378
7	3153
8	2951
9	2829
10	2659
11	2415
12	2333
13	2330
14	2183
15	1988
16	1974
17	1842
18	1786
19	1806
20	1634
21	1566
22	1492
23	1446
24	1426
25	1335
26	1214
27	1212
28	1172
29	1114
30	1139
31	1120
32	1044
33	998

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	34	986
	35	937
	36	921
	37	881
	38	874
	39	842
	40	840
	41	802
	42	778
	43	740
	44	701
	45	669

46	720
47	722
48	684
49	677
50	647
51	611
52	618
53	589
54	584
55	574
56	489
57	574
58	537
59	532
60	531
61	506
62	453
63	453
64	455
65	453
66	478
67	448
68	412
69	418
70	395
71	394
72	403
73	400
74	357
75	356
76	378
77	359
78	324

vigne - HW2

01:44 Sunday, April 28, 2019 60

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	79	336
	80	313
	81	312
	82	317
	83	320
	84	323
	85	318
	86	317
	87	316
	88	302
	89	300
	90	249
	91	286
	92	266
	93	304

94	280
95	255
96	279
97	281
98	256
99	251
100	240
101	267
102	235
103	227
104	214
105	238
106	232
107	192
108	217
109	177
110	218
111	202
112	186
113	205
114	184
115	230
116	189
117	194
118	185
119	184
120	167
121	193
122	168
123	208

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	124	170
	125	190
	126	140
	127	160
	128	176
	129	176
	130	174
	131	168
	132	178
	133	158
	134	167
	135	159
	136	173
	137	124
	138	148
	139	159
	140	188
	141	145

142	130
143	124
144	150
145	126
146	142
147	132
148	119
149	129
150	120
151	116
152	139
153	143
154	135
155	156
156	110
157	137
158	107
159	106
160	126
161	112
162	120
163	100
164	119
165	106
166	124
167	101
168	105

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	169	106
	170	99
	171	98
	172	89
	173	90
	174	81
	175	96
	176	83
	177	81
	178	99
	179	101
	180	93
	181	84
	182	90
	183	80
	184	91
	185	101
	186	95
	187	100
	188	92
	189	81

190	77
191	88
192	96
193	83
194	73
195	97
196	78
197	90
198	113
199	85
200	69
201	63
202	73
203	65
204	58
205	71
206	68
207	71
208	69
209	65
210	80
211	60
212	81
213	65

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	214	57
	215	75
	216	61
	217	64
	218	69
	219	50
	220	46
	221	58
	222	55
	223	71
	224	52
	225	64
	226	57
	227	51
	228	62
	229	46
	230	40
	231	51
	232	54
	233	50
	234	62
	235	59
	236	52
	237	45

238	50
239	54
240	52
241	41
242	49
243	57
244	50
245	47
246	41
247	44
248	51
249	35
250	45
251	56
252	51
253	47
254	44
255	44
256	59
257	46
258	43

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	259	33
	260	27
	261	37
	262	44
	263	47
	264	42
	265	32
	266	44
	267	41
	268	32
	269	31
	270	37
	271	39
	272	37
	273	45
	274	23
	275	44
	276	30
	277	33
	278	45
	279	29
	280	39
	281	34
	282	35
	283	32
	284	39
	285	35

286	27
287	40
288	30
289	38
290	43
291	28
292	26
293	35
294	44
295	31
296	37
297	32
298	40
299	29
300	39
301	24
302	31
303	35

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	304	23
	305	27
	306	51
	307	30
	308	28
	309	37
	310	25
	311	31
	312	32
	313	38
	314	33
	315	36
	316	25
	317	34
	318	26
	319	22
	320	38
	321	24
	322	28
	323	33
	324	13
	325	22
	326	20
	327	17
	328	22
	329	23
	330	21
	331	23
	332	22
	333	19

334	28
335	25
336	13
337	16
338	26
339	22
340	21
341	21
342	28
343	19
344	28
345	23
346	27
347	19
348	15

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	349	21
	350	25
	351	20
	352	22
	353	17
	354	21
	355	24
	356	20
	357	16
	358	20
	359	15
	360	18
	361	29
	362	18
	363	14
	364	15
	365	14
	366	21
	367	20
	368	16
	369	15
	370	15
	371	23
	372	13
	373	17
	374	18
	375	17
	376	17
	377	17
	378	23
	379	9
	380	19
	381	19

382	19
383	19
384	15
385	19
386	13
387	9
388	18
389	19
390	13
391	18
392	19
393	17

One-Way Frequencies

,	•	
Variable	Value	Frequency
ArrDelayLagCum	394	17
	395	18
	396	12
	397	19
	398	17
	399	14
	400	13
	401	17
	402	9
	403	18
	404	6
	405	15
	406	14
	407	9
	408	13
	409	14
	410	10
	411	8
	412	13
	413	16
	414	13
	415	18
	416	12
	417	7
	418	5
	419	15
	420	15
	421	10
	422	15
	423	9
	424	18
	425	20
	426	6
	427	9
	428	7
	429	17

430	11
431	12
432	9
433	10
434	11
435	15
436	10
437	15
438	8

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	439	8
	440	8
	441	3
	442	3
	443	11
	444	9
	445	11
	446	12
	447	13
	448	7
	449	10
	450	8
	451	13
	452	12
	453	13
	454	12
	455	13
	456	12
	457	10
	458	6
	459	8
	460	12
	461	11
	462	16
	463	11
	464	5
	465	10
	466	10
	467	13
	468	6
	469	15
	470	8
	471	18
	472	11
	473	7
	474	6
	475	5
	476	5
	477	8

478	4
479	10
480	20
481	12
482	8
483	4

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	484	16
	485	7
	486	6
	487	5
	488	8
	489	8
	490	5
	491	10
	492	11
	493	10
	494	10
	495	3
	496	9
	497	8
	498	8
	499	6
	500	3
	501	8
	502	8
	503	7
	504	1
	505	10
	506	6
	507	3
	508	6
	509	9
	510	1
	511	6
	512	4
	513	14
	514	7
	515	8
	516	6
	517	4
	518	5
	519	2
	520	4
	521	9
	522	10
	523	9
	524	5
	525	4

526	7
527	8
528	5

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	529	7
	530	9
	531	5
	532	10
	533	7
	534	10
	535	4
	536	9
	537	3
	538	10
	539	4
	540	7
	541	5
	542	5
	544	2
	545	9
	546	4
	547	8
	548	3
	549	8
	550	6
	551	9
	552	8
	553	3
	554	3
	555	2
	556	6
	557	3
	559	2
	560	1
	561	3
	562	1
	563	5
	564	4
	565	2
	566	2
	567	2
	568	3
	569	3
	570	4
	571	5
	572	4
	573	3
	574 5 7 5	6
	575	2

vigne - HW2

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	576	1
	577	3
	578	1
	579	3
	580	2
	581	5
	582	5
	583	2
	584	4
	585	4
	586	2
	587	2
	588	4
	589	3
	590	3
	591	1
	592	5
	593	2
	594	5
	595	7
	596	4
	597	7
	598	4
	599	3
	600	6
	601	6
	602	8
	603	4
	604	3
	605	7
	606	1
	607	4
	609	4
	610	1
	611	2
	612	2
	613	3
	614	6
	615	9
	616	2
	617	3
	618	5
	619	4
	620	3
	621	8
		_

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	622	2
	623	2
	624	1
	625	4
	626	5
	627	6
	628	10
	629	2
	631	5
	632	1
	633	3
	634	6
	635	1
	636	3
	637	4
	638	1
	639	4
	640	1
	641	3
	642	3
	643	4
	644	3
	645	1
	646	4
	647	3
	648	2
	650	2
	651	1
	653	3
	655	4
	656	1
	658	1
	659	3
	660	2
	661	4
	662	2
	663	4
	664	2
	665	1
	666	3
	667	2
	668	2
	669	4
	670	2
	673	1

vigne - HW2 01:44 Sunday, April 28, 2019 73

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency					
ArrDelayLagCum	674	2					
, 201a, 1agoa	675	3					
	676	2					
	677	4					
	678	3					
	679	2					
	683	1					
	684	3					
	685	2					
	686	2					
	687	2					
	689	5					
	690	1					
	691	3					
	693	2					
	694	1					
	695	1					
	696	1					
	697	1					
	698	1					
	699	2					
	700	1					
	701	2					
	702	2					
	704	2					
	705	2					
	706	1					
	707	1					
	708	5					
	709	2					
	710	2					
	711	1					
	712	4					
	713	3					
	714	5					
	715	5					
	716	2					
	717	2					
	719	1					
	720	2					
	721	2					
	722	3					
	723	3					
	724	1					
	725	3					
vig	ne - HW2	01:4	1 Sunday,	April	28,	2019	7

One-Way Frequencies

Variable Value Frequency

ArrDelayLagCum	726	1
	727	1
	728	1
	730	1
	733	1
	734	4
	735	3
	736	2
	738	4
	739	1
	742	2
	743	2
	744	2
	746	2
	747	2
	748	1
	749	1
	751	4
	752	1
	753	2
	755	1
	756	1
	757	3
	759	1
	760	1
	761	2
	762	5
	763	4
	764	2
	769	1
	771	1
	772	1
	773	2
	774	1
	775	2
	776	3
	778	2
	779	10
	782	2
	783	1
	784	3
	785	1
	786	1
	788	2
	789	1

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	791	1
	794	2
	795	2

796	1
797	1
798	4
799	3
800	2
801	1
803	1
804	1
807	1
809	2
812	1
816	2
817	3
819	1
820	1
821	1
822	1
825	2
826	1
827	1
828	3
830	1
831	1
835	1
836	1
837	1
838	1
841	1
845	1
846	1
847	3
851	3
852	1
854	1
855	1
856	1
857	1
858	2
859	1
862	1
865	1
866	2

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	867	1
	869	1
	871	1
	873	1
	874	1
	875	1

880	1
883	2
884	1
887	1
889	1
890	1
891	2
892	2
895	2
896	2
904	1
912	1
917	1
920	1
923	1
927	1
928	1
931	1
933	1
941	1
943	1
946	1
948	1
949	3
952	1
953	1
960	2
965	1
970	2
975	1
980	1
982	1
984	3
988	1
990	1
992	1
997	1
006	1
012	1

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	1021	1
	1024	1
	1025	1
	1028	1
	1029	2
	1032	1
	1033	1
	1035	2
	1036	1

1046	1
1048	1
1049	1
1052	1
1061	4
1062	1
1069	3
1079	1
1081	1
1097	1
1104	1
1106	1
1116	1
1120	1
1132	1
1142	1
1144	1
1151	1
1163	1
1171	1
1175	1
1184	1
1190	2
1201	1
1204	1
1219	1
1223	1
1227	1
1240	1
1284	1
1300	1
1305	1
1327	1
1351	1
1356	1
1389	3

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLagCum	1417	1
	1419	1
	1558	1
ArrDelayLag2	-78	1
	-73	1
	-71	2
	-70	1
	-67	1
	-66	1
	-64	1
	-63	2

-62	8
-61	3
-60	4
-59	6
-58	8
-57	7
-56	8
- 55	14
-54	16
-53	17
-52	16
-51	25
-50	26
-49	28
-48	29
-47	28
-46	50
- 45	64
-44	79
-43	95
-42	103
-41	122
-40	143
-39	194
-38	217
-37	272
-36	299
-35	365
-34	456
-33	538
-32	629
-31	761
-30	955

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	- 29	1113
	-28	1254
	-27	1457
	-26	1777
	- 25	2053
	-24	2418
	-23	2805
	-22	3185
	-21	3595
	-20	3990
	- 19	4524
	-18	5123
	-17	5646
	-16	6145
	- 15	6662

-14	7201
- 13	7769
-12	8143
-11	8410
-10	8625
-9	8737
-8	9042
-7	8860
-6	8713
-5	8514
- 4	8245
-3	7804
-2	7352
- 1	6875
0	237679
1	6048
2	5573
3	5280
4	4706
5	4455
6	4049
7	3665
8	3363
9	3061
10	2824
11	2596
12	2436
13	2330
14	2166
15	1887

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	16	1750
	17	1656
	18	1549
	19	1410
	20	1370
	21	1232
	22	1256
	23	1123
	24	1095
	25	961
	26	941
	27	925
	28	860
	29	785
	30	840
	31	714
	32	692
	33	681

34	603
35	651
36	552
37	528
38	552
39	503
40	482
41	473
42	411
43	422
44	398
45	362
46	399
47	376
48	348
49	353
50	363
51	331
52	292
53	266
54	294
55	279
56	255
57	255
58	274
59	257
60	229

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	61	222
	62	213
	63	234
	64	204
	65	218
	66	189
	67	161
	68	173
	69	177
	70	174
	71	147
	72	156
	73	163
	74	159
	75	133
	76	143
	77	144
	78	133
	79	137
	80	145
	81	114

82	122
83	121
84	142
85	117
86	115
87	115
88	108
89	109
90	105
91	100
92	101
93	91
94	96
95	81
96	91
97	94
98	90
99	72
100	77
101	87
102	67
103	92
104	60
105	82

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	106	66
	107	82
	108	68
	109	83
	110	73
	111	69
	112	72
	113	65
	114	58
	115	64
	116	55
	117	45
	118	62
	119	52
	120	51
	121	44
	122	45
	123	66
	124	47
	125	61
	126	46
	127	41
	128	51
	129	51

130	48
131	56
132	30
133	50
134	48
135	52
136	49
137	38
138	40
139	42
140	40
141	38
142	32
143	21
144	43
145	35
146	36
147	25
148	39
149	25
150	25

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	151	22
	152	30
	153	39
	154	31
	155	35
	156	30
	157	33
	158	20
	159	23
	160	31
	161	24
	162	37
	163	27
	164	28
	165	30
	166	31
	167	26
	168	36
	169	23
	170	15
	171	24
	172	23
	173	25
	174	17
	175	19
	176	23
	177	22

178	23
179	14
180	23
181	12
182	24
183	17
184	21
185	14
186	19
187	21
188	14
189	9
190	12
191	17
192	15
193	8
194	13
195	21

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	196	13
	197	16
	198	16
	199	16
	200	12
	201	14
	202	12
	203	13
	204	9
	205	14
	206	6
	207	15
	208	13
	209	15
	210	15
	211	11
	212	10
	213	5
	214	11
	215	13
	216	12
	217	11
	218	12
	219	5
	220	6
	221	13
	222	8
	223	10
	224	11
	225	7

226	8
227	7
228	8
229	4
230	9
231	7
232	8
233	11
234	8
235	8
236	11
237	7
238	2
239	7
240	6

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	241	13
	242	2
	243	7
	244	6
	245	6
	246	7
	247	5
	248	9
	249	4
	250	4
	251	5
	252	3
	253	6
	254	4
	255	4
	256	3
	257	6
	258	7
	259	8
	260	3
	261	3
	262	4
	263	8
	264	9
	265	9
	266	5
	267	7
	268	3
	269	4
	270	4
	271	6
	272	8
	273	3

274	4
275	7
276	6
277	4
278	4
279	5
280	4
281	4
282	5
283	2
284	4
285	3

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	286	8
	287	3
	288	6
	290	3
	291	2
	292	2
	293	6
	294	2
	295	3
	296	6
	297	4
	298	2
	299	2
	300	3
	301	3
	302	3
	303	1
	304	4
	305	3
	306	4
	307	3
	308	1
	309	2
	310	5
	311	5
	312	1
	313	6
	314	2
	315	1
	316	2
	317	6
	318	1
	319	1
	320	4
	321	2
	323	3

324	3
325	2
326	3
328	5
329	2
330	4
331	2
332	1
333	2

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	334	4
, ,	335	4
	336	3
	337	2
	338	1
	339	2
	341	4
	342	3
	343	1
	344	3
	345	2
	346	1
	347	1
	348	1
	349	1
	350	3
	351	2
	352	1
	353	1
	354	4
	355	3
	356	1
	357	4
	358	2
	359	4
	360	2
	362	2
	363	3
	364	2
	366	1
	367	1
	369	2
	370	2
	372	1
	373	2
	374	3
	375	3
	376	3
	377	2

378	1
379	1
380	1
381	2
385	3
386	1

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	387	1
, ,	388	4
	389	2
	392	1
	393	2
	394	1
	395	1
	396	1
	397	4
	398	2
	399	2
	400	2
	401	4
	402	1
	403	3
	406	1
	407	2
	409	2
	412	1
	413	2
	415	2
	416	2
	417	1
	419	3
	420	2
	422	3
	423	1
	424	2
	426	1
	429	4
	431	3
	432	2
	435	2
	437	1
	439	1
	441	1
	442	2
	444	1
	445	1
	447	2
	448	1
	452	1

453	1
455	1
466	2

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	467	2
	469	2
	471	2
	475	2
	477	1
	479	1
	480	4
	486	2
	492	4
	493	2
	494	1
	495	1
	496	2
	498	3
	499	1
	502	1
	513	2
	518	1
	520	1
	521	1
	522	1
	528	1
	529	1
	531	1
	532	1
	533	1
	535	2
	537	1
	542	2
	547	1
	557	1
	561	1
	568	1
	570	1
	574	2
	579	1
	581	1
	592	1
	600	1
	602	1
	617	1
	627	1
	628	1
	636	1
	640	1

vigne - HW2

The CATMOD Procedure

One-Way Frequencies

Variable	Value	Frequency
ArrDelayLag2	641	1
	649	1
	721	1
	723	1
	727	1
	744	1
	749	1
	763	1
	786	1
	788	1
	791	1
	795	1
	874	1
	891	1
	904	1
	1099	1
	1170	1

vigne - HW2

01:44 Sunday, April 28, 2019 91

The CATMOD Procedure

Population Profiles

	Arr Delay				Arr	Arr Delay	Arr	
	Lag	Cancelled	CRSDep	Seq	Delay	Lag	Delay	Sample
Sample	Ind	Lag1	Time	Num	Lag	Cum	Lag2	Size
1	0	0	0:01	1	0	0	0	3
2	0	0	0:05	1	0	0	0	38
3	0	0	0:07	1	0	0	0	1
4	0	0	0:10	1	0	0	0	25
5	0	0	0:11	1	0	0	0	3
6	0	0	0:15	1	0	0	0	70
7	0	0	0:20	1	0	0	0	88
8	0	0	0:23	1	0	0	0	1
9	0	0	0:25	1	0	0	0	53
10	0	0	0:27	1	0	0	0	48
11	0	0	0:28	1	0	0	0	1
12	0	0	0:29	1	0	0	0	25
13	0	0	0:30	1	0	0	0	236
14	0	0	0:33	1	0	0	0	1
15	0	0	0:35	1	0	0	0	61
16	0	0	0:38	1	0	0	0	25
17	0	0	0:40	1	0	0	0	87
18	0	0	0:45	1	0	0	0	105
19	0	0	0:46	1	0	0	0	3

			0:47	ı	0	0	0	31
21	0	0	0:49	1	0	0	0	17
22	0	0	0:50	1	0	0	0	105
23	0	0	0:51	1	0	0	0	6
24	0	0	0:52	1	0	0	0	26
25	0	0	0:53	1	0	0	0	2
26	0	0	0:55	1	0	0	0	99
27	0	0	0:56	1	0	0	0	1
28	0	0	0:58	1	0	0	0	7
29	0	0	0:59	1	0	0	0	80
30	0	0	1:00	1	0	0	0	63
31	0	0	1:01	1	0	0	0	23
32	0	0	1:02	1	0	0	0	1
33	0	0	1:05	1	0	0	0	36
34	0	0	1:07	1	0	0	0	1
35	0	0	1:10	1	0	0	0	31
36	0	0	1:11	1	0	0	0	1
37	0	0	1:12	1	0	0	0	4
38	0	0	1:14	1	0	0	0	24
39	0	0	1:15	1	0	0	0	42
40	0	0	1:20	1	0	0	0	58

Only the first 40 populations are displayed.

vigne - HW2

01:44 Sunday, April 28, 2019 92

The CATMOD Procedure

Response Profiles

Response	Dep Delay Class
1	0
2	1
3	2

Maximum Likelihood Analysis

Maximum likelihood computations converged.

Maximum Likelihood Analysis of Variance

Source	DF	Chi-Square	Pr > ChiSq
Intercept	2	13951.20	<.0001
CRSDepTime	2	3010.82	<.0001
SeqNum	2	1315.13	<.0001
ArrDelayLagInd	2	11946.52	<.0001
ArrDelayLag	2	9244.33	<.0001
ArrDelayLagCum	2	166.42	<.0001
ArrDelayLag2	2	548.78	<.0001
CancelledLag1	2	660.80	<.0001

Likelihood Ratio 6E5 354535.6 1.0000

Analysis of Maximum Likelihood Estimates

	Function		Standard	Chi-	
Parameter	Number	Estimate	Error	Square	Pr > ChiSq
Intercept	1	3.0116	0.0325	8603.50	<.0001
	2	0.9178	0.0374	600.83	<.0001
CRSDepTime	1	-0.00002	5.589E-7	968.35	<.0001
	2	1.034E-6	6.097E-7	2.88	0.0899
SeqNum	1	0.1335	0.00526	645.61	<.0001
	2	0.0327	0.00564	33.66	<.0001
ArrDelayLagInd	0 1	0.1309	0.00976	179.89	<.0001
	0 2	-0.5266	0.0102	2677.14	<.0001
ArrDelayLag	1	-0.0330	0.000344	9244.27	<.0001
	2	-0.0145	0.000275	2788.40	<.0001
ArrDelayLagCum	1	-0.00215	0.000166	166.30	<.0001
	2	-0.00134	0.000160	70.11	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 93

The CATMOD Procedure

Analysis of Maximum Likelihood Estimates

	Funct		Standard	Chi-	
Parameter	Numb	er Estimate	Error 	Square	Pr > ChiSq
ArrDelayLag2	1	-0.00725	0.000314	534.15	<.0001
	2	-0.00286	0.000289	98.23	<.0001
CancelledLag1	0 1	0.4849	0.0213	520.02	<.0001
	0 2	0.2058	0.0260	62.55	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 94

The MI Procedure

Model Information

Data Set WORK.BTS201503WTHR

Method FCS
Number of Imputations 12
Number of Burn-in Iterations 20

Seed for random number generator 383340000

FCS Model Specification

Imputed Method Variables

Regression SNOW TMAX TMIN

Missing Data Patterns

Group	SNOW	TMAX	X TMIN	Freq	Percent		SNOW	•	ans MAX	TM	IN
1	X	Χ	Х	20203	77.32	0.3	07939	42.919	1665 25	5.46354	45
2	X	Х		875	3.35	0.0	0	51.000			. •
3	X		X	1720	6.58		0	011000		5.04186	60
4		X	X	3331	12.75		_	48.703		1.11978	
4	•	^	^	3331	12.75		•	46.703	1092 3	1.11976	54
				Variance In	formation (12 Imput	ations))			
					Variar	ice					
		Var:	iable	Between	Wi	thin.	7	Total	DF		
		SNOV	N	0.000003900	0.00004	4781	0.00004	19005 139	3.6		
		TMAX	X	0.000179	0.00	6344	0.00	06538 836	8.6		
		TMI		0.000033795		4143			935		
				Variance Inf	ormation (1	2 Imputa	tions)				
				Dolo	+1.40						
						Fraction		Dalativa			
			\/		ease	Missing		Relative			
			Variable	in vari	ance Inf	ormation	ET	ficiency			
			SNOW	0.09	4344	0.087443		0.992766			
			TMAX			0.029829		0.997520			
			TMIN	0.00	8837	0.008774		0.999269			
					vigne - H	IW2	01 :	:44 Sunday.	April 28,	2019	95
				.	Ū			, , ,	· · · · · · · · · · · · · · · · · · ·		
				I	he MI Proce	aure					
				Parameter E	stimates (1	2 Imputa	tions)				
	Varia	able		Mean	Std Error	95% Co	nfidend	ce Limits	DF		
	SNOW		0.	275366	0.007000	0.26	163	0.28910	1393.6		
	TMAX			037221	0.080861	43.87		44.19573	8368.6		
	TMIN		26.	396361	0.064649	26.26	964	26.52308	21935		
				Parameter E	stimates (1	2 Imputa	tions)				
								+ for 110:			
	Variak	ole	Mi	nimum	Maximum		MuO	t for HO: Mean=MuO	Pr > t		
	SNOW		0.2	72991	0.279897		0	39.34	<.0001		
	TMAX		44.0	15380 4	4.053088		0	544.61	<.0001		
	TMIN		26.3	86586 2	6.406651		0	408.30	<.0001		
					vigne - H	IW2	01 :	:44 Sunday,	April 28,	2019	96

The REG Procedure

Model: MODEL1
Dependent Variable: DepDelay

----- Imputation Number=1 -----

Number	of	Observations	Read			26129
Number	of	Observations	Used			25438
Number	of	Observations	with	Missing	Values	691

Analysis of Variance

			Sum of	Mean		
Source		DF	Squares	Square	F Value	Pr > F
Model		10	10242740	1024274	1043.66	<.0001
Error		25427	24954668	981.42400		
Corrected	Total	25437	35197408			
	Root MS	F	31.32769	R-Square	0.2910	
	Depende	_	12.96183	Adj R-Sq	0.2907	
	Coeff V		241.69188	, 4		

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.14242	0.98215	14.40	<.0001
CRSDepTime	1	0.00015193	0.00001645	9.24	<.0001
SeqNum	1	-1.38984	0.15016	-9.26	<.0001
ArrDelayLagInd	1	-1.36423	0.53336	-2.56	0.0105
ArrDelayLag	1	0.34014	0.00942	36.12	<.0001
ArrDelayLagCum	1	0.01243	0.00563	2.21	0.0273
ArrDelayLag2	1	0.03719	0.01233	3.02	0.0026
CancelledLag1	1	8.57629	1.60283	5.35	<.0001
SNOW	1	10.87218	0.22933	47.41	<.0001
TMAX	1	-0.04823	0.02898	-1.66	0.0962
TMIN	1	-0.21928	0.03487	-6.29	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 97

----- Imputation Number=2 -----

The REG Procedure

Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 26129
Number of Observations Used 25438
Number of Observations with Missing Values 691

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10249431	1024943	1044.62	<.0001

Error				25427	24947977	981.1608	
_		_	_				

Corrected Total 25437 35197408

Root MSE 31.32349 R-Square 0.2912 Dependent Mean 12.96183 Adj R-Sq 0.2909

Coeff Var 241.65947

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.06340	0.98167	14.33	<.0001
CRSDepTime	1	0.00015056	0.00001645	9.15	<.0001
SeqNum	1	-1.39556	0.15014	-9.30	<.0001
ArrDelayLagInd	1	-1.36856	0.53322	-2.57	0.0103
ArrDelayLag	1	0.33951	0.00942	36.06	<.0001
ArrDelayLagCum	1	0.01222	0.00563	2.17	0.0300
ArrDelayLag2	1	0.03836	0.01233	3.11	0.0019
CancelledLag1	1	8.53120	1.60272	5.32	<.0001
SNOW	1	10.90046	0.22964	47.47	<.0001
TMAX	1	-0.05123	0.02895	-1.77	0.0768
TMIN	1	-0.20861	0.03479	-6.00	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 98

----- Imputation Number=3

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of Observations Read 26129
Number of Observations Used 25438
Number of Observations with Missing Values 691

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	10281600	1028160	1049.25	<.0001
Error	25427	24915808	979.89570		
Corrected Total	25437	35197408			
Root	MSE	31.30329	R-Square	0.2921	
Depen	Dependent Mean		Adj R-Sq	0.2918	
Coeff	⁼ Var	241.50362			

Parameter Estimates

Parameter Standard

Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.35746	0.97925	14.66	<.0001
CRSDepTime	1	0.00015207	0.00001644	9.25	<.0001
SeqNum	1	-1.42000	0.15003	-9.46	<.0001
ArrDelayLagInd	1	-1.26643	0.53300	-2.38	0.0175
ArrDelayLag	1	0.33728	0.00942	35.82	<.0001
ArrDelayLagCum	1	0.01227	0.00563	2.18	0.0292
ArrDelayLag2	1	0.03962	0.01232	3.22	0.0013
CancelledLag1	1	8.32770	1.60197	5.20	<.0001
SNOW	1	10.94750	0.22976	47.65	<.0001
TMAX	1	-0.06536	0.02880	-2.27	0.0233
TMIN	1	-0.19687	0.03463	-5.69	<.0001

----- Imputation Number=4

The REG Procedure Model: MODEL1 Dependent Variable: DepDelay

Number of Observations Read 26129
Number of Observations Used 25438
Number of Observations with Missing Values 691

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10221662	1022166	1040.63	<.0001
Error	25427	24975746	982.25295		
Corrected Total	25437	35197408			
Root	MSE	31.34091	R-Square	0.2904	
Depe	Dependent Mean		Adj R-Sq	0.2901	
Coef	ff Var	241.79393			

Parameter Estimates

t
- 1
001
001
001
142
001
204
)22
001
001
124

TMIN 1	-0.20376	0.03471	-5.87	<.0001
--------	----------	---------	-------	--------

----- Imputation Number=5

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of Observations Read 26129
Number of Observations Used 25438
Number of Observations with Missing Values 691

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10233486	1023349	1042.33	<.0001
Error	25427	24963922	981.78794		
Corrected To	otal 25437	35197408			
	Root MSE	31.33350	R-Square	0.2907	
	Dependent Mean	12.96183	Adj R-Sq	0.2905	
	Coeff Var	241.73669			

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.05457	0.98112	14.33	<.0001
CRSDepTime	1	0.00015261	0.00001645	9.28	<.0001
SeqNum	1	-1.39111	0.15018	-9.26	<.0001
ArrDelayLagInd	1	-1.37032	0.53336	-2.57	0.0102
ArrDelayLag	1	0.33901	0.00942	35.98	<.0001
ArrDelayLagCum	1	0.01257	0.00563	2.23	0.0256
ArrDelayLag2	1	0.03735	0.01233	3.03	0.0025
CancelledLag1	1	8.52961	1.60329	5.32	<.0001
SNOW	1	10.86138	0.22935	47.36	<.0001
TMAX	1	-0.04751	0.02890	-1.64	0.1002
TMIN	1	-0.21904	0.03477	-6.30	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 101

----- Imputation Number=6

The REG Procedure

Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 26129 Number of Observations Used 25438

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10273832	1027383	1048.13	<.0001
Error	25427	24923576	980.20121		
Corrected To	tal 25437	35197408			
	Root MSE	31.30817	R-Square	0.2919	
Dependent Mean		12.96183	Adj R-Sq	0.2916	
	Coeff Var	241.54127			

Parameter Estimates

> t
<.0001
<.0001
<.0001
0.0202
<.0001
0.0257
0.0024
<.0001
<.0001
0.1437
<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 102

----- Imputation Number=7 ------

The REG Procedure
Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 26129

Number of Observations Used 25438

Number of Observations with Missing Values 691

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10250405	1025041	1044.76	<.0001
Error	25427	24947002	981.12253		
Corrected Total	25437	35197408			

Root MSE	31.32288	R-Square	0.2912
Dependent Mean	12.96183	Adj R-Sq	0.2909

Coeff Var 241.65475

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	13.84358	0.98118	14.11	<.0001
CRSDepTime	1	0.00015539	0.00001645	9.45	<.0001
SeqNum	1	-1.39870	0.15013	-9.32	<.0001
ArrDelayLagInd	1	-1.43956	0.53307	-2.70	0.0069
ArrDelayLag	1	0.33866	0.00942	35.95	<.0001
ArrDelayLagCum	1	0.01271	0.00563	2.26	0.0240
ArrDelayLag2	1	0.03869	0.01233	3.14	0.0017
CancelledLag1	1	8.40513	1.60289	5.24	<.0001
SNOW	1	10.88526	0.22876	47.58	<.0001
TMAX	1	-0.04289	0.02889	-1.48	0.1377
TMIN	1	-0.22291	0.03473	-6.42	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 103

----- Imputation Number=8 -----

The REG Procedure
Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 26129
Number of Observations Used 25438
Number of Observations with Missing Values 691

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10270826	1027083	1047.70	<.0001
Error	25427	24926582	980.31943		
Corrected Total	1 25437	35197408			
D	oot MSE ependent Mean oeff Var	31.31005 12.96183 241.55583	R-Square Adj R-Sq	0.2918 0.2915	

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.06619	0.98282	14.31	<.0001

CRSDepTime	1	0.00015031	0.00001644	9.14	<.0001
SeqNum	1	-1.37911	0.15007	-9.19	<.0001
ArrDelayLagInd	1	-1.28700	0.53321	-2.41	0.0158
ArrDelayLag	1	0.33843	0.00942	35.94	<.0001
ArrDelayLagCum	1	0.01235	0.00563	2.19	0.0282
ArrDelayLag2	1	0.03887	0.01232	3.15	0.0016
CancelledLag1	1	8.59911	1.60177	5.37	<.0001
SNOW	1	10.90106	0.22914	47.57	<.0001
TMAX	1	-0.05532	0.02894	-1.91	0.0560
TMIN	1	-0.20662	0.03476	-5.94	<.0001

----- Imputation Number=9

The REG Procedure Model: MODEL1 Dependent Variable: DepDelay

Number of Observations Read 26129
Number of Observations Used 25438
Number of Observations with Missing Values 691

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	10269501	1026950	1047.51	<.0001
Error	25427	24927907	980.37152		
Corrected To	otal 25437	35197408			
	Root MSE	31.31088	R-Square	0.2918	
	Dependent Mean	12.96183	Adj R-Sq	0.2915	
	Coeff Var	241.56225	, ,		

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.11141	0.98192	14.37	<.0001
CRSDepTime	1	0.00014700	0.00001644	8.94	<.0001
SeqNum	1	-1.35128	0.15009	-9.00	<.0001
ArrDelayLagInd	1	-1.34470	0.53303	-2.52	0.0117
ArrDelayLag	1	0.33770	0.00942	35.86	<.0001
ArrDelayLagCum	1	0.01208	0.00563	2.15	0.0320
ArrDelayLag2	1	0.03828	0.01232	3.11	0.0019
CancelledLag1	1	8.37702	1.60233	5.23	<.0001
SNOW	1	10.97472	0.22996	47.72	<.0001
TMAX	1	-0.04551	0.02893	-1.57	0.1157
TMIN	1	-0.21863	0.03477	-6.29	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 105

----- Imputation Number=10

The REG Procedure Model: MODEL1 Dependent Variable: DepDelay

Number	of	Observations	Read			26129
Number	of	Observations	Used			25438
Number	of	Observations	with	Missing	Values	691

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10234467	1023447	1042.47	<.0001
Error	25427	24962941	981.74937		
Corrected To	tal 25437	35197408			
	Root MSE	31.33288	R-Square	0.2908	
	Dependent Mean	12.96183	Adj R-Sq	0.2905	
	Coeff Var	241.73194			

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.05448	0.98117	14.32	<.0001
CRSDepTime	1	0.00015319	0.00001645	9.31	<.0001
SeqNum	1	-1.41106	0.15017	-9.40	<.0001
ArrDelayLagInd	1	-1.25051	0.53353	-2.34	0.0191
ArrDelayLag	1	0.33684	0.00943	35.72	<.0001
ArrDelayLagCum	1	0.01299	0.00563	2.31	0.0211
ArrDelayLag2	1	0.03739	0.01233	3.03	0.0024
CancelledLag1	1	8.52637	1.60316	5.32	<.0001
SNOW	1	10.88979	0.23003	47.34	<.0001
TMAX	1	-0.04943	0.02891	-1.71	0.0873
TMIN	1	-0.21581	0.03477	-6.21	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 106

----- Imputation Number=11 -----

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of	Observations	Read	26129
Number of	Observations	Used	25438
Number of	Observations	with Missing Values	691

Analysis of Variance

Source		DF	Sum of Squares	Mean Square	F Value	Pr > F
Model		10	10212369	1021237	1039.30	<.0001
Model		10	10212309	1021237	1039.30	<.0001
Error		25427	24985039	982.61842		
Corrected	Total	25437	35197408			
	Root	MSE	31.34674	R-Square	0.2901	
	Depen	dent Mean	12.96183	Adj R-Sq	0.2899	
	Coeff		241.83891	3		

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.08072	0.98249	14.33	<.0001
CRSDepTime	1	0.00015288	0.00001646	9.29	<.0001
SeqNum	1	-1.39298	0.15024	-9.27	<.0001
ArrDelayLagInd	1	-1.43436	0.53348	-2.69	0.0072
ArrDelayLag	1	0.33967	0.00942	36.04	<.0001
ArrDelayLagCum	1	0.01222	0.00564	2.17	0.0301
ArrDelayLag2	1	0.03882	0.01234	3.15	0.0017
CancelledLag1	1	8.64982	1.60380	5.39	<.0001
SNOW	1	10.78528	0.22921	47.05	<.0001
TMAX	1	-0.04662	0.02895	-1.61	0.1073
TMIN	1	-0.22014	0.03480	-6.33	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 107

----- Imputation Number=12 -----

The REG Procedure

Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 26129
Number of Observations Used 25438
Number of Observations with Missing Values 691

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model Error Corrected Total	10 25427 25437	10237946 24959462 35197408	1023795 981.61252	1042.97	<.0001
Root Depen	MSE dent Mean	31.33070 12.96183	R-Square Adj R-Sq	0.2909 0.2906	

Coeff Var 241.71509

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.26320	0.98149	14.53	<.0001
CRSDepTime	1	0.00015357	0.00001645	9.33	<.0001
SeqNum	1	-1.43626	0.15016	-9.56	<.0001
ArrDelayLagInd	1	-1.35754	0.53339	-2.55	0.0109
ArrDelayLag	1	0.33945	0.00942	36.04	<.0001
ArrDelayLagCum	1	0.01201	0.00563	2.13	0.0330
ArrDelayLag2	1	0.03905	0.01233	3.17	0.0015
CancelledLag1	1	8.52887	1.60312	5.32	<.0001
SNOW	1	10.87975	0.22985	47.33	<.0001
TMAX	1	-0.05518	0.02888	-1.91	0.0560
TMIN	1	-0.21081	0.03476	-6.07	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 108

----- Imputation Number=1 -----

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	10248584	1024858	1044.60	<.0001
Error	25415	24934612	981.09826		
Corrected T	otal 25425	35183196			
	Root MSE	31.32249	R-Square	0.2913	
	Dependent Mean	12.95564	Adj R-Sq	0.2910	
	Coeff Var	241.76728			

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.16247	0.98225	14.42	<.0001
CRSDepTime	1	0.00015070	0.00001646	9.16	<.0001
SeqNum	1	-1.38232	0.15018	-9.20	<.0001
ArrDelayLagInd	1	-1.34890	0.53337	-2.53	0.0114
ArrDelayLag	1	0.33982	0.00942	36.09	<.0001

ArrDelayLagCum	1	0.01233	0.00563	2.19	0.0286
ArrDelayLag2	1	0.03719	0.01233	3.02	0.0026
CancelledLag1	1	8.53151	1.60267	5.32	<.0001
SNOW	1	10.92264	0.22997	47.50	<.0001
TMAX	1	-0.04843	0.02898	-1.67	0.0947
TMIN	1	-0.21862	0.03486	-6.27	<.0001

------ Imputation Number=2

The REG Procedure Model: MODEL1 Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10255403	1025540	1045.58	<.0001
Error	25415	24927793	980.82995		
Corrected Tota	1 25425	35183196			
R	oot MSE	31.31820	R-Square	0.2915	
D	ependent Mean	12.95564	Adj R-Sq	0.2912	
C	oeff Var	241.73421			

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.08370	0.98177	14.35	<.0001
CRSDepTime	1	0.00014931	0.00001645	9.07	<.0001
SeqNum	1	-1.38805	0.15015	-9.24	<.0001
ArrDelayLagInd	1	-1.35313	0.53323	-2.54	0.0112
ArrDelayLag	1	0.33919	0.00942	36.02	<.0001
ArrDelayLagCum	1	0.01212	0.00563	2.15	0.0314
ArrDelayLag2	1	0.03836	0.01232	3.11	0.0019
CancelledLag1	1	8.48583	1.60256	5.30	<.0001
SNOW	1	10.95137	0.23028	47.56	<.0001
TMAX	1	-0.05146	0.02895	-1.78	0.0755
TMIN	1	-0.20790	0.03479	-5.98	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 110

------ Imputation Number=3 ------

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10287754	1028775	1050.25	<.0001
Error	25415	24895441	979.55701		
Corrected To	tal 25425	35183196			
	Root MSE	31.29788	R-Square	0.2924	
	Dependent Mean	12.95564	Adj R-Sq	0.2921	
	Coeff Var	241.57730			

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.37739	0.97935	14.68	<.0001
CRSDepTime	1	0.00015082	0.00001644	9.17	<.0001
SeqNum	1	-1.41260	0.15005	-9.41	<.0001
ArrDelayLagInd	1	-1.25023	0.53301	-2.35	0.0190
ArrDelayLag	1	0.33695	0.00942	35.79	<.0001
ArrDelayLagCum	1	0.01217	0.00563	2.16	0.0306
ArrDelayLag2	1	0.03964	0.01232	3.22	0.0013
CancelledLag1	1	8.28130	1.60180	5.17	<.0001
SNOW	1	10.99938	0.23040	47.74	<.0001
TMAX	1	-0.06554	0.02880	-2.28	0.0229
TMIN	1	-0.19621	0.03463	-5.67	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 111

----- Imputation Number=4

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model Error	10 25415	10227463 24955733	1022746 981.92931	1041.57	<.0001

Corrected Total 25425 35183196

Root MSE 31.33575 R-Square 0.2907 Dependent Mean 12.95564 Adj R-Sq 0.2904

Coeff Var 241.86965

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.12909	0.98199	14.39	<.0001
CRSDepTime	1	0.00015308	0.00001646	9.30	<.0001
SeqNum	1	-1.40809	0.15023	-9.37	<.0001
ArrDelayLagInd	1	-1.29338	0.53356	-2.42	0.0154
ArrDelayLag	1	0.33685	0.00943	35.72	<.0001
ArrDelayLagCum	1	0.01297	0.00563	2.30	0.0214
ArrDelayLag2	1	0.03784	0.01233	3.07	0.0022
CancelledLag1	1	8.53364	1.60349	5.32	<.0001
SNOW	1	10.87212	0.23022	47.22	<.0001
TMAX	1	-0.05882	0.02884	-2.04	0.0414
TMIN	1	-0.20301	0.03471	-5.85	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 112

----- Imputation Number=5

The REG Procedure

Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model Error Corrected Tota	10 25415 al 25425	10239280 24943916 35183196	1023928 981.46435	1043.27	<.0001
	Root MSE Dependent Mean Coeff Var	31.32833 12.95564 241.81238	R-Square Adj R-Sq	0.2910 0.2907	

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t

Intercept	1	14.07288	0.98124	14.34	<.0001
CRSDepTime	1	0.00015137	0.00001646	9.20	<.0001
SeqNum	1	-1.38362	0.15020	-9.21	<.0001
ArrDelayLagInd	1	-1.35486	0.53337	-2.54	0.0111
ArrDelayLag	1	0.33869	0.00942	35.95	<.0001
ArrDelayLagCum	1	0.01247	0.00563	2.21	0.0268
ArrDelayLag2	1	0.03735	0.01233	3.03	0.0025
CancelledLag1	1	8.48484	1.60312	5.29	<.0001
SNOW	1	10.91195	0.22998	47.45	<.0001
TMAX	1	-0.04764	0.02890	-1.65	0.0993
TMIN	1	-0.21846	0.03477	-6.28	<.0001

----- Imputation Number=6

The REG Procedure Model: MODEL1 Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	10279918	1027992	1049.12	<.0001
Error	25415	24903278	979.86534		
Corrected Tot	al 25425	35183196			
	Root MSE	31.30280	R-Square	0.2922	
	Dependent Mean	12.95564	Adj R-Sq	0.2919	
	Coeff Var	241.61532			

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	13.97054	0.98132	14.24	<.0001
CRSDepTime	1	0.00015250	0.00001644	9.27	<.0001
SeqNum	1	-1.40351	0.15007	-9.35	<.0001
ArrDelayLagInd	1	-1.22195	0.53312	-2.29	0.0219
ArrDelayLag	1	0.33720	0.00942	35.81	<.0001
ArrDelayLagCum	1	0.01246	0.00563	2.21	0.0269
ArrDelayLag2	1	0.03745	0.01232	3.04	0.0024
CancelledLag1	1	8.55602	1.60151	5.34	<.0001
SNOW	1	11.06029	0.23065	47.95	<.0001
TMAX	1	-0.04245	0.02887	-1.47	0.1416
TMIN	1	-0.22558	0.03473	-6.50	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 114

----- Imputation Number=7

The REG Procedure

Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10256202	1025620	1045.70	<.0001
Error	25415	24926994	980.79851		
Corrected T	otal 25425	35183196			
	Root MSE	31.31770	R-Square	0.2915	
	Dependent Mean	12.95564	Adj R-Sq	0.2912	
	Coeff Var	241.73034	, n oq	5.25.2	

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	13.86294	0.98127	14.13	<.0001
CRSDepTime	1	0.00015418	0.00001645	9.37	<.0001
SeqNum	1	-1.39126	0.15015	-9.27	<.0001
ArrDelayLagInd	1	-1.42470	0.53309	-2.67	0.0075
ArrDelayLag	1	0.33834	0.00942	35.92	<.0001
ArrDelayLagCum	1	0.01262	0.00563	2.24	0.0251
ArrDelayLag2	1	0.03869	0.01232	3.14	0.0017
CancelledLag1	1	8.35993	1.60274	5.22	<.0001
SNOW	1	10.93526	0.22939	47.67	<.0001
TMAX	1	-0.04313	0.02889	-1.49	0.1355
TMIN	1	-0.22219	0.03473	-6.40	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 115

----- Imputation Number=8 -----

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10276809	1027681	1048.67	<.0001
Error	25415	24906387	979.98767		
Corrected Total	25425	35183196			
Root I	MSE	31.30475	R-Square	0.2921	
Depen	dent Mean	12.95564	Adj R-Sq	0.2918	
Coeff	Var	241.63040			

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.08639	0.98291	14.33	<.0001
CRSDepTime	1	0.00014906	0.00001645	9.06	<.0001
SeqNum	1	-1.37152	0.15009	-9.14	<.0001
ArrDelayLagInd	1	-1.27123	0.53322	-2.38	0.0171
ArrDelayLag	1	0.33810	0.00941	35.91	<.0001
ArrDelayLagCum	1	0.01225	0.00563	2.18	0.0295
ArrDelayLag2	1	0.03887	0.01232	3.16	0.0016
CancelledLag1	1	8.55440	1.60160	5.34	<.0001
SNOW	1	10.95160	0.22977	47.66	<.0001
TMAX	1	-0.05556	0.02894	-1.92	0.0549
TMIN	1	-0.20590	0.03476	-5.92	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 116

----- Imputation Number=9

The REG Procedure
Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

		Sum of	f Mean		
Source	D	F Squares	s Square	F Value	Pr > F
Model	1	0 10275617	7 1027562	1048.50	<.0001
Error	2541	5 24907579	980.03458		
Corrected To	otal 2542	5 35183196	3		
	Root MSE	31.30550	O R-Square	0.2921	
	Dependent Mea	n 12.95564	4 Adj R-Sq	0.2918	
	Coeff Var	241.63618	3		

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.13327	0.98201	14.39	<.0001
CRSDepTime	1	0.00014572	0.00001645	8.86	<.0001
SeqNum	1	-1.34354	0.15010	-8.95	<.0001
ArrDelayLagInd	1	-1.32908	0.53304	-2.49	0.0127
ArrDelayLag	1	0.33737	0.00942	35.83	<.0001
ArrDelayLagCum	1	0.01197	0.00563	2.13	0.0334
ArrDelayLag2	1	0.03828	0.01232	3.11	0.0019
CancelledLag1	1	8.33056	1.60217	5.20	<.0001
SNOW	1	11.02618	0.23061	47.81	<.0001
TMAX	1	-0.04577	0.02893	-1.58	0.1136
TMIN	1	-0.21790	0.03477	-6.27	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 117

----- Imputation Number=10 -----

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10240359	1024036	1043.42	<.0001
Error	25415	24942837	981.42189		
Corrected Total	25425	35183196			
Root	MSE	31.32765	R-Square	0.2911	
Depen	dent Mean	12.95564	Adj R-Sq	0.2908	
Coeff	Var	241.80715			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	14.07502	0.98126	14.34	<.0001
CRSDepTime	1	0.00015196	0.00001646	9.23	<.0001
SeqNum	1	-1.40365	0.15019	-9.35	<.0001
ArrDelayLagInd	1	-1.23459	0.53355	-2.31	0.0207
ArrDelayLag	1	0.33651	0.00943	35.69	<.0001
ArrDelayLagCum	1	0.01289	0.00563	2.29	0.0221
ArrDelayLag2	1	0.03739	0.01233	3.03	0.0024
CancelledLag1	1	8.48093	1.60300	5.29	<.0001

SNOW	1	10.94057	0.23067	47.43	<.0001
TMAX	1	-0.04970	0.02891	-1.72	0.0857
TMTN	1	-0.21508	0.03477	-6.19	< .0001

----- Imputation Number=11 -----

The REG Procedure

Model: MODEL1
Dependent Variable: DepDelay

Number of Observations Read 25426 Number of Observations Used 25426

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	10	10218010	1021801	1040.21	<.0001
Error	25415	24965186	982.30125		
Corrected To	otal 25425	35183196			
	Root MSE	31.34169	R-Square	0.2904	
	Dependent Mean Coeff Var	12.95564 241.91545	Adj R-Sq	0.2901	

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.10277	0.98261	14.35	<.0001
CRSDepTime	1	0.00015166	0.00001647	9.21	<.0001
SeqNum	1	-1.38553	0.15026	-9.22	<.0001
ArrDelayLagInd	1	-1.41972	0.53350	-2.66	0.0078
ArrDelayLag	1	0.33936	0.00942	36.01	<.0001
ArrDelayLagCum	1	0.01212	0.00564	2.15	0.0315
ArrDelayLag2	1	0.03882	0.01233	3.15	0.0016
CancelledLag1	1	8.60561	1.60365	5.37	<.0001
SNOW	1	10.83438	0.22984	47.14	<.0001
TMAX	1	-0.04698	0.02895	-1.62	0.1046
TMIN	1	-0.21932	0.03480	-6.30	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 119

----- Imputation Number=12 -----

The REG Procedure

Model: MODEL1

Dependent Variable: DepDelay

Number of Observations Read

Analysis of Variance

		Sum of	Mean		
Source	DF	Squares	Square	F Value	Pr > F
Model	10	10243839	1024384	1043.92	<.0001
Error	25415	24939357	981.28496		
Corrected Total	25425	35183196			
Root	MSE	31.32547	R-Square	0.2912	
Depen	dent Mean	12.95564	Adj R-Sq	0.2909	
Coeff	Var	241.79028			

Parameter Estimates

		Parameter	Standard		
Variable	DF	Estimate	Error	t Value	Pr > t
Intercept	1	14.28305	0.98160	14.55	<.0001
CRSDepTime	1	0.00015234	0.00001646	9.26	<.0001
SeqNum	1	-1.42898	0.15018	-9.52	<.0001
ArrDelayLagInd	1	-1.34200	0.53340	-2.52	0.0119
ArrDelayLag	1	0.33913	0.00942	36.01	<.0001
ArrDelayLagCum	1	0.01191	0.00563	2.11	0.0345
ArrDelayLag2	1	0.03905	0.01233	3.17	0.0015
CancelledLag1	1	8.48364	1.60296	5.29	<.0001
SNOW	1	10.93077	0.23049	47.42	<.0001
TMAX	1	-0.05536	0.02887	-1.92	0.0552
TMIN	1	-0.21017	0.03476	-6.05	<.0001

vigne - HW2 01:44 Sunday, April 28, 2019 120

The MIANALYZE Procedure

Model Information

Data Set WORK.BTS201503WTHRIMP_MIMP Number of Imputations 12

Variance Information (12 Imputations)

		Variance		
Parameter	Between	Within	Total	DF
SNOW	0.003853	0.052987	0.057161	2063.3
TMAX	0.000046442	0.000835	0.000886	3409.1
TMIN	0.000076067	0.001208	0.001290	2697.1

Variance Information (12 Imputations)

Relative Fraction

Parameter	Increase in Variance	Missing Information	Relative Efficiency
SNOW	0.078767	0.073913	0.993878
TMAX	0.060225	0.057357	0.995243
TMIN	0.068220	0.064557	0.994649

Parameter Estimates (12 Imputations)

Parameter	Estimate	Std Error	95% Confider	nce Limits	DF
SNOW	10.944710	0.239083	10.47584	11.41358	2063.3
TMAX	-0.050903	0.029761	-0.10925	0.00745	3409.1
TMIN	-0.213363	0.035921	-0.28380	-0.14293	2697.1

Parameter Estimates (12 Imputations)

Parameter	Minimum	Maximum	Theta0	t for HO: Parameter=ThetaO	Pr > t
SNOW	10.834382	11.060290	0	45.78	<.0001
TMAX	-0.065542	-0.042447	0	-1.71	0.0873
TMIN	-0.225578	-0.196211	0	-5.94	<.0001

Statistics in R (integration with SAS)

01:44 Sunday, April 28, 2019

Call:

polr(formula = DepDelayClassR ~ CRSDepTime + SeqNum + ArrDelayLagInd +
 ArrDelayLag + ArrDelayLagCum + ArrDelayLag2 + CancelledLag1,
 data = SASfile, Hess = TRUE)

Coefficients:

CRSDepTime SeqNum ArrDelayLagInd ArrDelayLag ArrDelayLagCum
1.809189e-05 -1.091829e-01 9.259305e-01 2.539706e-02 1.096915e-03
ArrDelayLag2 CancelledLag1

ArrDelayLag2 CancelledLag1 4.801224e-03 8.002886e-01

Intercepts:

0|1 1|2 -5707.580 -5705.793

Residual Deviance: 501073.96

AIC: 501091.96