The CONTENTS Procedure

Data Set Name	WORK.IMPORT	Observations	1000
Member Type	DATA	Variables	34
Engine	V9	Indexes	0
Created	05/12/2019 16:51:55	Observation Length	272
Last Modified	05/12/2019 16:51:55	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64		
Encoding	utf-8 Unicode (UTF-8)		

Engine/Host Dependent Information

Data Set Page Size	65536
Number of Data Set Pages	5
First Data Page	1
Max Obs per Page	240
Obs in First Data Page	217
Number of Data Set Repairs	0
Filename	/tmp/SAS_workBCA900005F41_localhost.localdomain/SAS_work763E00005F41_localhost.localdomain/import.sas7bdat
Release Created	9.0401M6
Host Created	Linux
Inode Number	671612
Access Permission	rw-rw-r--
Owner Name	sasdemo
File Size	384KB
File Size (bytes)	393216

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
5	address	Num	8	BEST.	address
3	age	Num	8	BEST.	age
14	callcard	Num	8	BEST.	callcard
25	callid	Num	8	BEST.	callid
26	callwait	Num	8	BEST.	callwait
19	cardmon	Num	8	BEST.	cardmon
34	churn	Num	8	BEST.	churn
28	confer	Num	8	BEST.	confer
33	custcat	Num	8	BEST.	custcat
29	ebill	Num	8	BEST.	ebill
7	ed	Num	8	BEST.	ed
8	employ	Num	8	BEST.	employ
13	equip	Num	8	BEST.	equip
18	equipmon	Num	8	BEST.	equipmon
27	forward	Num	8	BEST.	forward
10	gender	Num	8	BEST.	gender
6	income	Num	8	BEST.	income
24	internet	Num	8	BEST.	internet
31	lninc	Num	8	BEST.	lninc
16	longmon	Num	8	BEST.	longmon
4	marital	Num	8	BEST.	marital
21	multline	Num	8	BEST.	multline
23	pager	Num	8	BEST.	pager
1	region	Num	8	BEST.	region
11	reside	Num	8	BEST.	reside
9	retire	Num	8	BEST.	retire
2	tenure	Num	8	BEST.	tenure
12	tollfree	Num	8	BEST.	tollfree
17	tollmon	Num	8	BEST.	tollmon
22	voice	Num	8	BEST.	voice
15	wireless	Num	8	BEST.	wireless
20	wiremon	Num	8	BEST.	wiremon
32	zinterne	Num	8	BEST.	zinterne
30	zlnlong	Num	8	BEST.	zlnlong

Mean & Standard Deviations

Age

The MEANS Procedure

Analysis Variable : age age	
Mean	Std Dev
41.6840000	12.5588163

Years at Current Address

The MEANS Procedure

Analysis Variable : address address	
Mean	Std Dev
11.5510000	10.0866813

Income

The MEANS Procedure

Analysis Variable : income income	
Mean	Std Dev
77.5350000	107.0441648

Marital Status

The MEANS Procedure

Analysis Variable : marital marital	
Mean	Std Dev
0.4950000	0.5002252

Gender

The MEANS Procedure

Analysis Variable : gender gender	
Mean	Std Dev
0.5170000	0.4999610

Churn

The MEANS Procedure

Analysis Variable : churn churn	
Mean	Std Dev
0.2740000	0.4462321

Region

The MEANS Procedure

Analysis Variable : region region	
Mean	Std Dev
2.0220000	0.8161998

Ed

The MEANS Procedure

Analysis Variable : ed ed	
Mean	Std Dev
2.6710000	1.2223965

Custcat

The MEANS Procedure

Analysis Variable : custcat custcat	
Mean	Std Dev
2.4870000	1.1203062

Marital

The FREQ Procedure

marital				
marital	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	505	50.50	505	50.50
1	495	49.50	1000	100.00

Gender

The FREQ Procedure

gender				
gender	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	483	48.30	483	48.30
1	517	51.70	1000	100.00

Churn

The FREQ Procedure

churn				
churn	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	726	72.60	726	72.60
1	274	27.40	1000	100.00

Region

The FREQ Procedure

region				
region	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	322	32.20	322	32.20
2	334	33.40	656	65.60
3	344	34.40	1000	100.00

Ed

The FREQ Procedure

ed				
ed	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	204	20.40	204	20.40
2	287	28.70	491	49.10
3	209	20.90	700	70.00
4	234	23.40	934	93.40
5	66	6.60	1000	100.00

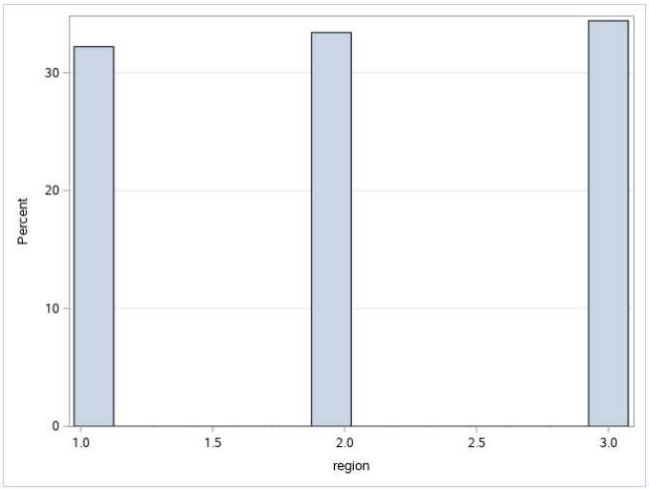
CustCat

The FREQ Procedure

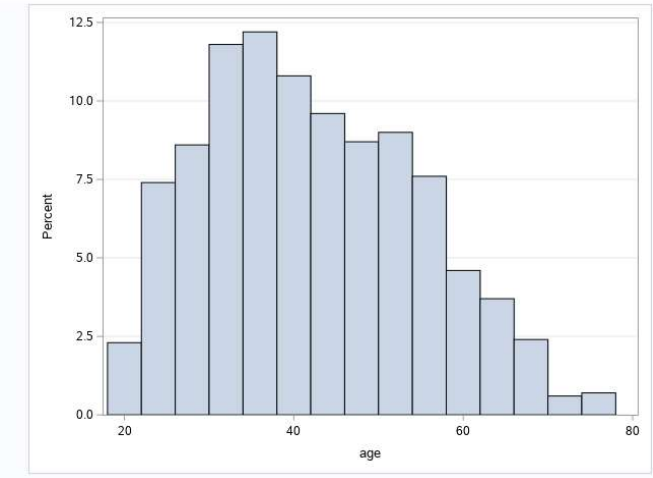
custcat				
custcat	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	266	26.60	266	26.60
2	217	21.70	483	48.30
3	281	28.10	764	76.40
4	236	23.60	1000	100.00

Graphs

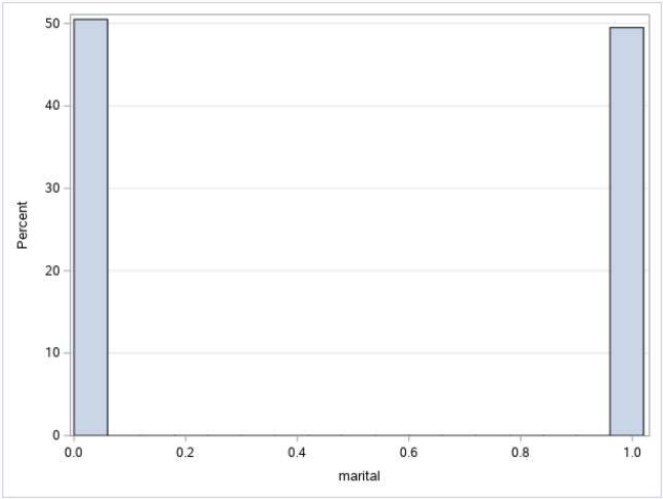
Region



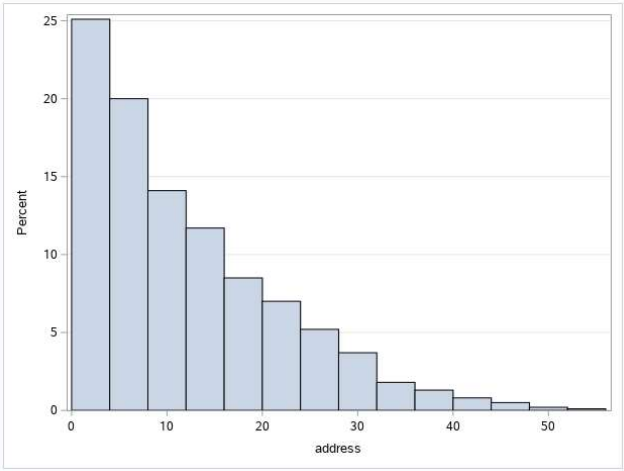
Age



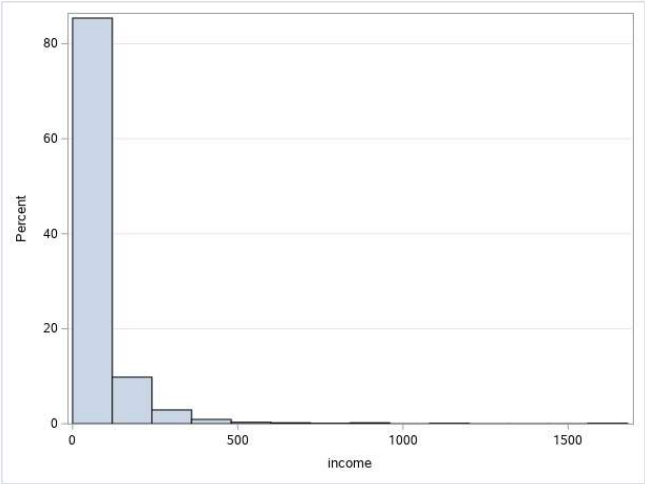
Marital



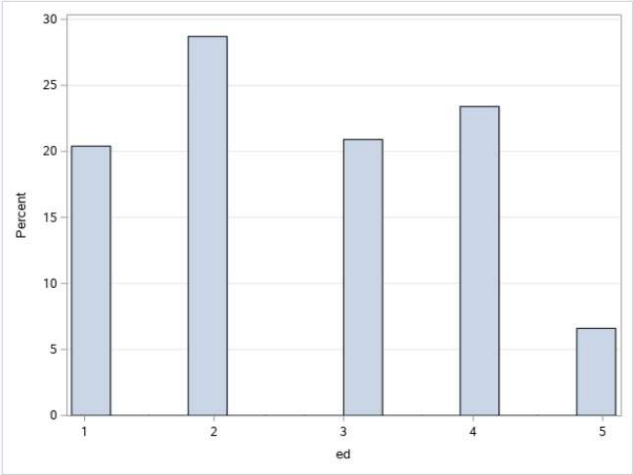
Years at Current Address



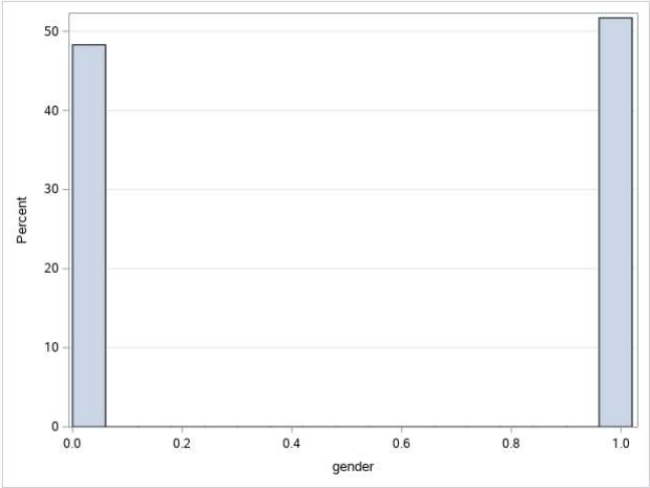
Income



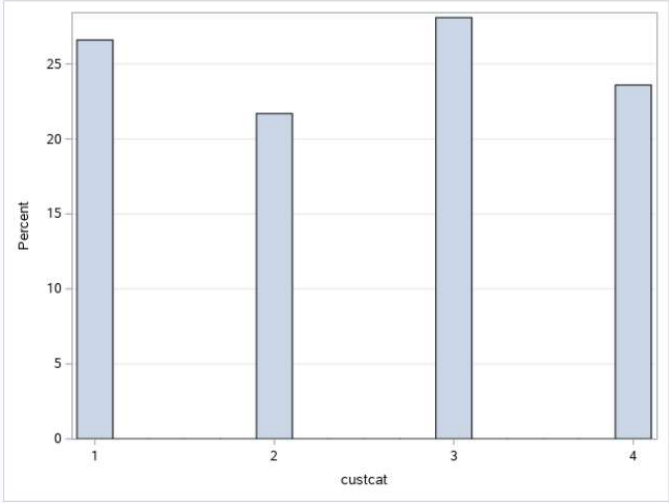
Ed



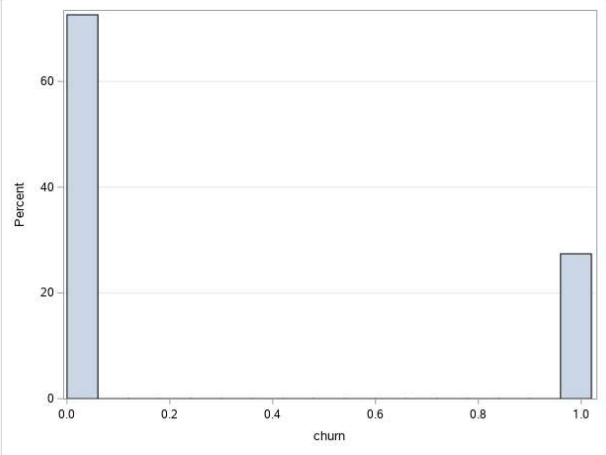
Gender



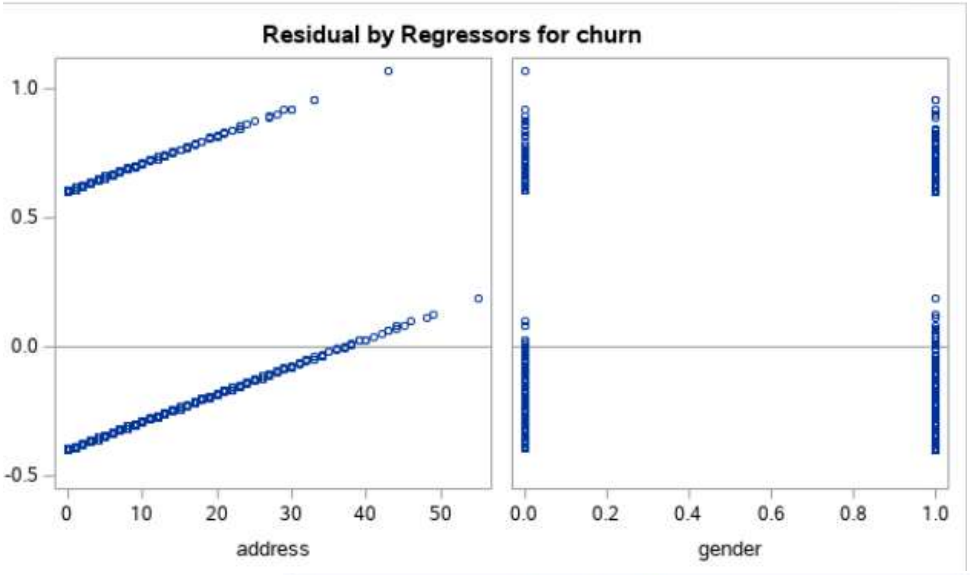
CustCat



Churn



Linear Regression
Churn



Observations	1000
Parameters	3
Error DF	997
MSE	0.1877
R-Square	0.0591
Adj R-Square	0.0573

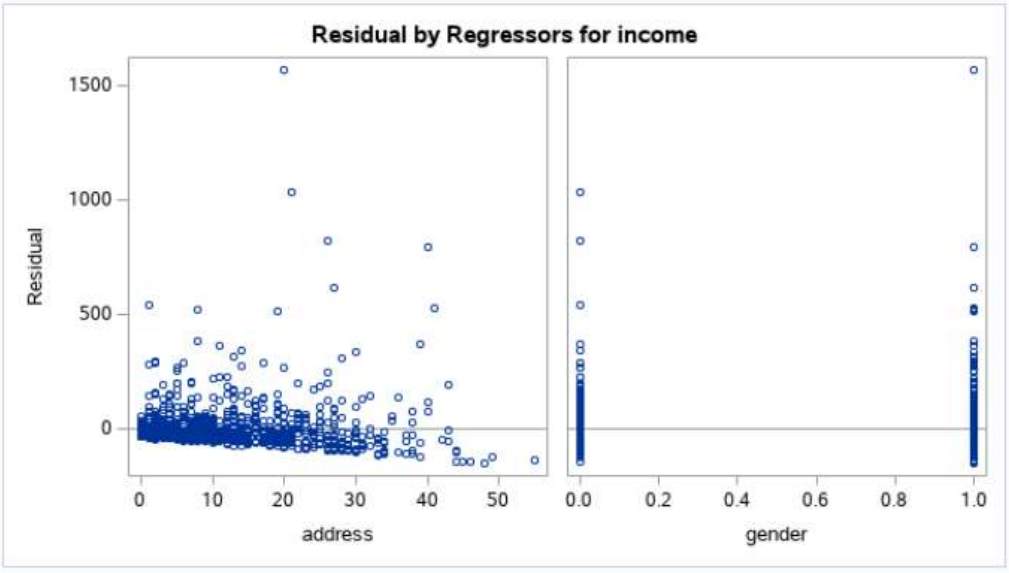
Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	11.76614	5.88307	31.34	<.0001
Error	997	187.15786	0.18772		
Corrected Total	999	198.92400			

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	0.39453	0.02513	15.70	<.0001
address	address	1	-0.01076	0.00136	-7.91	<.0001
gender	gender	1	0.00719	0.02742	0.26	0.7932

Income



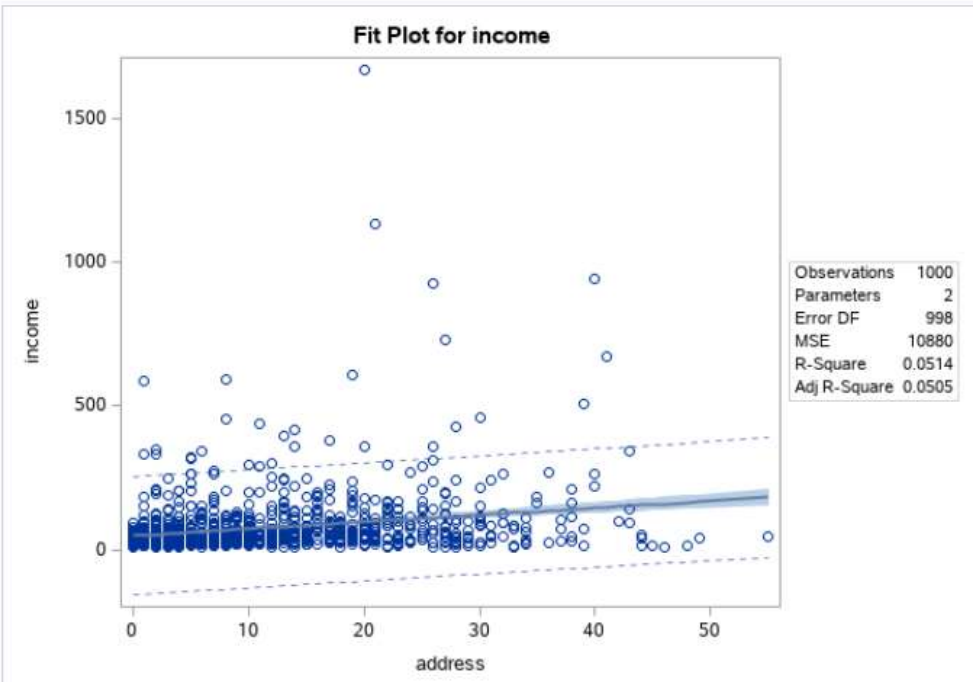
Observations	1000
Parameters	3
Error DF	997
MSE	10875
R-Square	0.0528
Adj R-Square	0.0509

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	604226	302113	27.78	<.0001
Error	997	10842769	10875		
Corrected Total	999	11446995			

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	45.69816	6.04806	7.56	<.0001
address	address	1	2.40343	0.32712	7.35	<.0001
gender	gender	1	7.88168	6.59962	1.19	0.2327



Observations	1000
Parameters	2
Error DF	998
MSE	10880
R-Square	0.0514
Adj R-Square	0.0505

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	588715	588715	54.11	<.0001
Error	998	10858280	10880		
Corrected Total	999	11446995			

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	49.73525	5.01624	9.91	<.0001
address	address	1	2.40670	0.32718	7.36	<.0001

Logistic Regression Model

Response Profile

Ordered Value	churn	Total Frequency
1	1	274
2	0	726

Probability modeled is churn='1'.

$$\log(odds\ to\ churn) = \beta_0 + \beta_1 * age.$$

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	1.0424	0.2599	16.0912	<.0001
age	1	-0.0505	0.00652	60.0945	<.0001