

Execution Environment

Author: jbae7@ncsu.edu
 File: Characterize Data.ctl [temp]
 SAS Context: SAS Studio compute context
 SAS Version: V.04.00M0P031824
 SAS Client: SAS® Studio 6.0
 SAS Locale:
 Submission Time: Jan 22, 2025, 4:25:28 PM
 Time Zone: GMT-05:00
 User Agent: Chrome 131.0.0.0

Code:Characterize Data.ctl

```

/*
 *
 * Task code generated by SAS® Studio 6.0
 *
 * Generated on '1/22/25, 4:24 PM'
 * Generated on SAS version 'V.04.00M0P031824'
 * Generated on browser 'Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/131.0.0.0 Safari/537.36'
 * Generated on web client 'https://vfl-026.engage.sas.com/SASStudio/main?locale=en_US&launchedFromAppSwitcher=true&useTransitionSplash=true'
*/

ods noproctitle;

/** Analyze categorical variables */
title "Frequencies for Categorical Variables";

proc freq data=SASHELP.CARS;
  tables Make Model Type Origin DriveTrain / plots=(freqplot) maxlevels=30;
run;

/** Analyze numeric variables */
title "Descriptive Statistics for Numeric Variables";

proc means data=SASHELP.CARS n nmiss min mean median max std;
  var MSRP Invoice EngineSize Cylinders Horsepower MPG_City MPG_Highway Weight
      Wheelbase Length;
run;

title;

proc univariate data=SASHELP.CARS noprint;
  histogram MSRP Invoice EngineSize Cylinders Horsepower MPG_City MPG_Highway
      Weight Wheelbase Length;
run;

```

Log:Characterize Data.ctl

```

1  /* region: Generated preamble */
2  /* Make sure the current directory is writable */
3  data _null_;
4      length rc 4;
5      %let tworkloc="%sysfunc(getoption(work));"
6      rc=dlgcdir(&tworkloc);
7  run;
NOTE: The current working directory is now
      "/opt/sas/viya/config/var/tmp/compsrv/default/4b2629ad-fc4c-447c-b7d0-b2126aaefe89/SAS_work25630000200_sas-compute-server-317
      2e257-1a33-424f-9b86-a3b182fc0a8f-11991".
NOTE: DATA statement used (Total process time):
      real time          0.00 seconds
      cpu time           0.00 seconds

8
9  /* Setup options */
10 title;
11 footnote;
12 options validvarname=any;
13 options validmemname=extend;
14 options dtreset date number;
15 options device=png;
16
17 /* Setup macro variables */
18 %let syscc=0;
19 %let _clientapp = %nrquote(%nrstr(SAS Studio));
20 %let _clientappabbrev = %nrquote(%nrstr(Studio));
21 %let _clientappversion=2024.03;
22 %let _clientversion=;

```

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23 %let _sasservername=&SYSHOSTNAME;
24 %let _sashostname=&SYSHOSTNAME;
25 %let _sasprogramfilehost=&SYSHOSTNAME;
26 %let _clientuserid = %nrquote(%nrstr(jbae7@ncsu.edu));
27 %let _clientusername = %nrquote(%nrstr(jbae7@ncsu.edu));
28 %let _clientmachine = %nrquote(%nrstr());
29 %let _clientmachine = %nrquote(%nrstr());
30 %let _clientmode = %nrquote(%nrstr(viya));
31 %let sasworkklocation="%sysfunc(getoption(work))";
32 filename _cwd &sasworkklocation;
33 data _null_;
34     call symput('_sasworkingdir',pathname('_cwd'));
35 run;
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds

36 filename _cwd;
NOTE: Fileref _CWD has been deassigned.
37 %let _sasprogramfile = %nrquote(%nrstr());
38 %let _baseurl = %nrquote(%nrstr(https://vf1-026.engage.sas.com/SASStudio/));
39 %let _execenv = %nrquote(%nrstr(SASStudio));
40 %symdel _dataout_mime_type _dataout_name _dataout_url _dataout_table / nowarn;
41 %let _sasws_ = %bquote(%sysfunc(getoption(work)));
42 %let _saswstemp_ = %bquote(%sysfunc(getoption(work)));
43
44 /* Detect SAS/Graph and setup graph options */
45 data _null_;
46     length rc $255;
47     call symput("graphinit","");
48     call symput("graphterm","");
49     rc=tslsl('sasxgopt','n');
50     _error_=0;
51     if (rc^=' ') then do;
52         call symput("graphinit","options reset=all gsfname=_gsfname");
53         call symput("graphterm","options noaccessible");
54     end;
55 run;
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds

56 data _null_;
57     length rc 4;
58     rc=sysprod("PRODNUM002");
59     if (rc^=1) then do;
60         call symput("graphinit","");
61         call symput("graphterm","");
62     end;
63 run;
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds

64
65 /* Setup ODS destinations */
66 ods _all_ close;
67 %studio_results_directory;
68 filename _htmlout "&_results_prefix_.html";
69 filename _listout "&_results_prefix_.lst";
70 filename _gsfname temp;
71 filename _dataout "&_results_prefix_.dat";
72 ods autonavigate off;
73 ods graphics on;
74 ods html5 (id=web) METATEXT='http-equiv="Content-Security-Policy" content="default-src ''none''; style-src ''unsafe-inline'';
74 ! img-src data: ;'' device=png gpath="&_saswstemp_" path="&_saswstemp_" encoding=utf8 file=_htmlout (title='Results:Characterize
74 ! Data.ctl') style=Ignite options(bitmap_mode='inline' outline='on' svg_mode='inline' css_prefix=".ods_&SYS_COMPUTE_JOB_ID"
74 ! body_id="div_&SYS_COMPUTE_JOB_ID" );
NOTE: Writing HTML5(WEB) Body file: _HTMLOUT
75 ods listing file=_listout;
76 &graphinit;
77 %studio_show_only_notes_wrapper;
NOTE: ODS statements in the SAS Studio environment may disable some output features.
80 %studio_initialize_custom_output;
81 /* endregion */
82
83 /*
84 *
85 * Task code generated by SAS® Studio 6.0
86 *
87 * Generated on '1/22/25, 4:24 PM'
88 * Generated on SAS version 'V.04.00M0P031824'
89 * Generated on browser 'Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/131.0.0.0
89 ! Safari/537.36'
90 * Generated on web client
90 ! 'https://vf1-026.engage.sas.com/SASStudio/main?locale=en_US&launchedFromAppSwitcher=true&useTransitionSplash=true'

```

```

91  */
92
93  ods noproctitle;
94
95  /** Analyze categorical variables */
96  title "Frequencies for Categorical Variables";
97
98  proc freq data=SASHELP.CARS;
99  tables Make Model Type Origin DriveTrain / plots=(freqplot) maxlevels=30;
100 run;
NOTE: MAXLEVELS=30 is greater than or equal to the total number of levels, 6. The table of Type displays all levels.
NOTE: MAXLEVELS=30 is greater than or equal to the total number of levels, 3. The table of Origin displays all levels.
NOTE: MAXLEVELS=30 is greater than or equal to the total number of levels, 3. The table of DriveTrain displays all levels.
NOTE: There were 428 observations read from the data set SASHELP.CARS.
NOTE: The PROCEDURE FREQ printed pages 1-3.
NOTE: PROCEDURE FREQ used (Total process time):
      real time          2.36 seconds
      cpu time           0.33 seconds

101
102 /** Analyze numeric variables */
103 title "Descriptive Statistics for Numeric Variables";
104
105 proc means data=SASHELP.CARS n nmiss min mean median max std;
106 var MSRP Invoice EngineSize Cylinders Horsepower MPG_City MPG_Highway Weight
107 Wheelbase Length;
108 run;
NOTE: There were 428 observations read from the data set SASHELP.CARS.
NOTE: The PROCEDURE MEANS printed page 4.
NOTE: PROCEDURE MEANS used (Total process time):
      real time          0.03 seconds
      cpu time           0.05 seconds

109
110 title;
111
112 proc univariate data=SASHELP.CARS noprint;
113 histogram MSRP Invoice EngineSize Cylinders Horsepower MPG_City MPG_Highway
114 Weight Wheelbase Length;
115 run;
NOTE: PROCEDURE UNIVARIATE used (Total process time):
      real time          0.93 seconds
      cpu time           0.44 seconds

116
117 /* region: Generated postamble */
118 /* Close ODS destinations */
119 &graphterm; ;*;*";*/;run;quit;
120 quit;run;
121 ods html5 (id=web) close;
122 ods listing close;
123 %if %sysfunc(fileref(_gsfname)) lt 0 %then %do;
124     filename _gsfname clear;
NOTE: Fileref _GSFNAME has been deassigned.
125 %end;
126 %studio_capture_custom_output;
127 /* endregion */
128

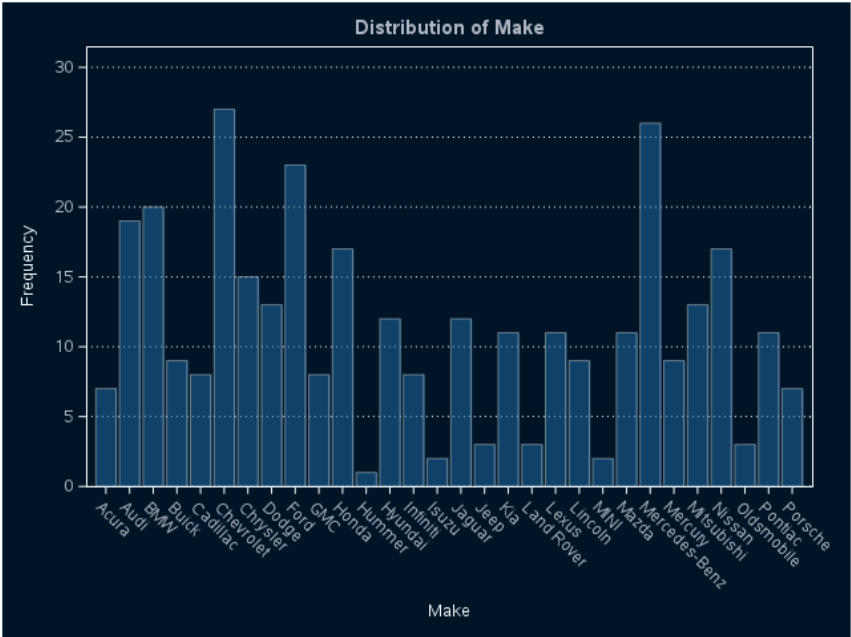
```

Results:Characterize Data.ctl

Frequencies for Categorical Variables

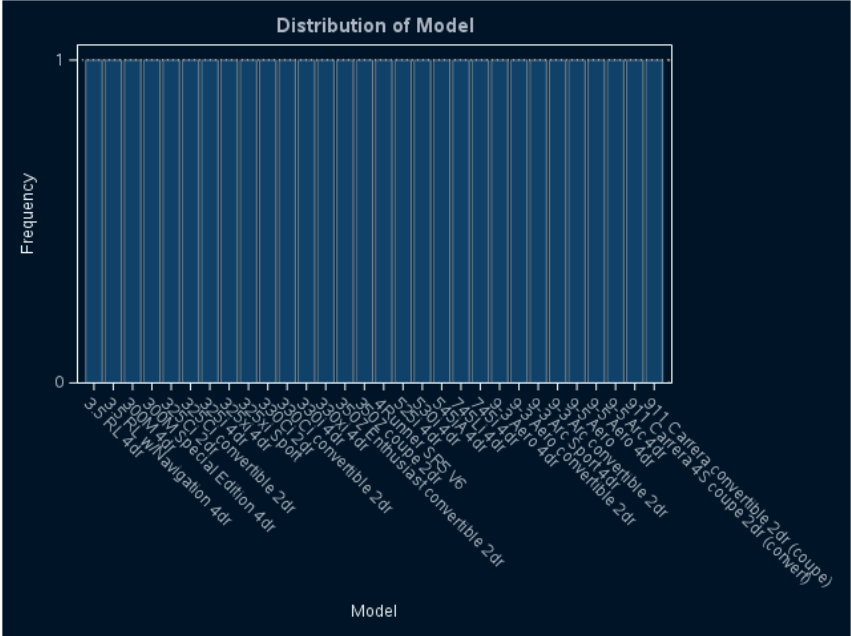
Make	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Acura	7	1.64	7	1.64
Audi	19	4.44	26	6.07
BMW	20	4.67	46	10.75
Buick	9	2.10	55	12.85
Cadillac	8	1.87	63	14.72
Chevrolet	27	6.31	90	21.03
Chrysler	15	3.50	105	24.53
Dodge	13	3.04	118	27.57
Ford	23	5.37	141	32.94
GMC	8	1.87	149	34.81
Honda	17	3.97	166	38.79
Hummer	1	0.23	167	39.02
Hyundai	12	2.80	179	41.82
Infiniti	8	1.87	187	43.69
The first 30 levels are displayed.				

Make	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Isuzu	2	0.47	189	44.16
Jaguar	12	2.80	201	46.96
Jeep	3	0.70	204	47.66
Kia	11	2.57	215	50.23
Land Rover	3	0.70	218	50.93
Lexus	11	2.57	229	53.50
Lincoln	9	2.10	238	55.61
MINI	2	0.47	240	56.07
Mazda	11	2.57	251	58.64
Mercedes-Benz	26	6.07	277	64.72
Mercury	9	2.10	286	66.82
Mitsubishi	13	3.04	299	69.86
Nissan	17	3.97	316	73.83
Oldsmobile	3	0.70	319	74.53
Pontiac	11	2.57	330	77.10
Porsche	7	1.64	337	78.74
The first 30 levels are displayed.				

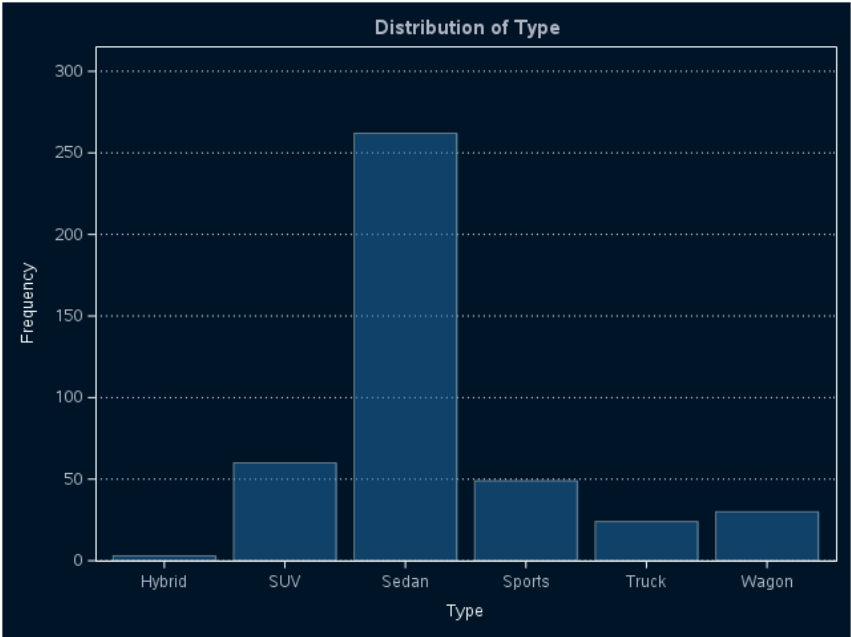


Model	Frequency	Percent	Cumulative Frequency	Cumulative Percent
3.5 RL 4dr	1	0.23	1	0.23
3.5 RL w/Navigation 4dr	1	0.23	2	0.47
300M 4dr	1	0.23	3	0.70
300M Special Edition 4dr	1	0.23	4	0.93
325Ci 2dr	1	0.23	5	1.17
325Ci convertible 2dr	1	0.23	6	1.40
325i 4dr	1	0.23	7	1.64
325xi 4dr	1	0.23	8	1.87
325xi Sport	1	0.23	9	2.10
330Ci 2dr	1	0.23	10	2.34
330Ci convertible 2dr	1	0.23	11	2.57
330i 4dr	1	0.23	12	2.80
330xi 4dr	1	0.23	13	3.04
350Z Enthusiast convertible 2dr	1	0.23	14	3.27
350Z coupe 2dr	1	0.23	15	3.50
4Runner SR5 V6	1	0.23	16	3.74
525i 4dr	1	0.23	17	3.97
530i 4dr	1	0.23	18	4.21
545iA 4dr	1	0.23	19	4.44
The first 30 levels are displayed.				

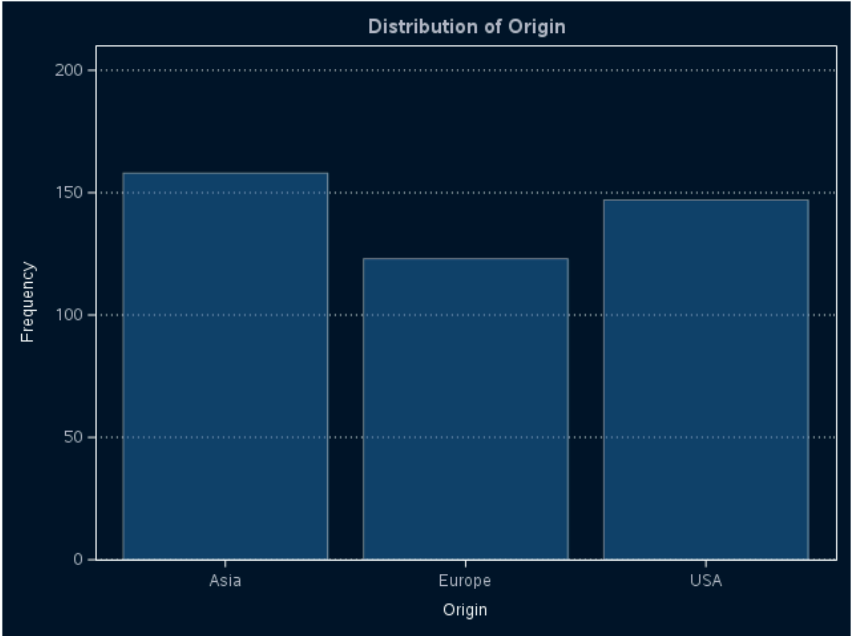
Model	Frequency	Percent	Cumulative Frequency	Cumulative Percent
745Li 4dr	1	0.23	20	4.67
745i 4dr	1	0.23	21	4.91
9-3 Aero 4dr	1	0.23	22	5.14
9-3 Aero convertible 2dr	1	0.23	23	5.37
9-3 Arc Sport 4dr	1	0.23	24	5.61
9-3 Arc convertible 2dr	1	0.23	25	5.84
9-5 Aero	1	0.23	26	6.07
9-5 Aero 4dr	1	0.23	27	6.31
9-5 Arc 4dr	1	0.23	28	6.54
911 Carrera 4S coupe 2dr (convert)	1	0.23	29	6.78
911 Carrera convertible 2dr (coupe)	1	0.23	30	7.01
The first 30 levels are displayed.				



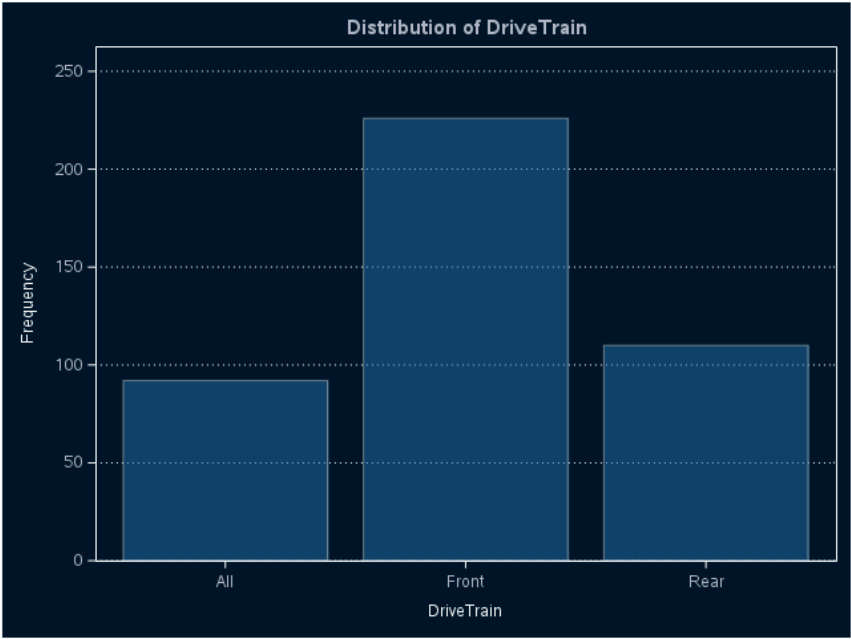
Type	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Hybrid	3	0.70	3	0.70
SUV	60	14.02	63	14.72
Sedan	262	61.21	325	75.93
Sports	49	11.45	374	87.38
Truck	24	5.61	398	92.99
Wagon	30	7.01	428	100.00



Origin	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Asia	158	36.92	158	36.92
Europe	123	28.74	281	65.65
USA	147	34.35	428	100.00



DriveTrain	Frequency	Percent	Cumulative Frequency	Cumulative Percent
All	92	21.50	92	21.50
Front	226	52.80	318	74.30
Rear	110	25.70	428	100.00



Descriptive Statistics for Numeric Variables

Variable	Label	N	N Miss	Minimum	Mean	Median	Maximum	Std Dev
MSRP		428	0	10280.00	32774.86	27635.00	192465.00	19431.72
Invoice		428	0	9875.00	30014.70	25294.50	173560.00	17642.12
EngineSize	Engine Size (L)	428	0	1.3000000	3.1967290	3.0000000	8.3000000	1.1085947
Cylinders		426	2	3.0000000	5.8075117	6.0000000	12.0000000	1.5584426
Horsepower		428	0	73.0000000	215.8855140	210.0000000	500.0000000	71.8360316
MPG_City	MPG (City)	428	0	10.0000000	20.0607477	19.0000000	60.0000000	5.2382176
MPG_Highway	MPG (Highway)	428	0	12.0000000	26.8434579	26.0000000	66.0000000	5.7412007
Weight	Weight (LBS)	428	0	1850.00	3577.95	3474.50	7190.00	758.9832146
Wheelbase	Wheelbase (IN)	428	0	89.0000000	108.1542056	107.0000000	144.0000000	8.3118130
Length	Length (IN)	428	0	143.0000000	186.3621495	187.0000000	238.0000000	14.3579913

