
STAT 480: Homework 9

Name:Kyle Salitrik | **ID#:** 997543474 | **PSU ID:** *kps168*

November 4, 2018

SUBJECT PICTURE DEMO

Below is the output for printing the subject using the picture format defined in the code.

Demonstration of Subject Picture		
	Obs	subj
1	1	#1-10027
2	2	#1-10029
3	3	#1-10039
4	4	#1-10040
5	5	#1-10045
6	6	#1-10049
7	7	#1-10051
8	8	#1-10052
9	9	#1-10053
10	10	#1-10055

FREQUENCY COUNT

Below is the output for counting the frequencies of all variables other than subject. There is an issue with the states. I could not find where to download the state_cb file, so I made my own. I assume I'm missing Puerto Rico or an "Other" option. I wasn't sure where to place it as the rest of the states are in alphabetical order.

Frequency Count of All other Variables					
The FREQ Procedure					
	r_id	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	0081	68	10.66	68	10.66
2	0225	58	9.09	126	19.75
3	0680	4	0.63	130	20.38
4	1808	16	2.51	146	22.88
5	1916	17	2.66	163	25.55
6	2068	87	13.64	250	39.18
7	2482	2	0.31	252	39.50
8	3405	11	1.72	263	41.22
9	3617	10	1.57	273	42.79
10	4069	6	0.94	279	43.73
11	4411	3	0.47	282	44.20
12	5232	25	3.92	307	48.12
13	5396	118	18.50	425	66.61
14	6651	25	3.92	450	70.53
15	6658	81	12.70	531	83.23
16	7019	1	0.16	532	83.39
17	7069	6	0.94	538	84.33
18	7689	5	0.78	543	85.11
19	7925	1	0.16	544	85.27
20	8476	65	10.19	609	95.45
21	8713	24	3.76	633	99.22
22	8886	5	0.78	638	100.00
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33	country	Frequency	Percent	Cumulative Frequency	Cumulative Percent
34	United States	595	93.26	595	93.26
35	Canada	5	0.78	600	94.04
36	Mexico	2	0.31	602	94.36
37	Other	36	5.64	638	100.00

39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104

race	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Other	16	2.51	16	2.51
White	29	4.55	45	7.05
Black	593	92.95	638	100.00

state	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Alabama	4	0.67	4	0.67
Arizona	1	0.17	5	0.84
Arkansas	5	0.84	10	1.68
California	45	7.55	55	9.23
Colorado	5	0.84	60	10.07
Connecticut	2	0.34	62	10.40
Delaware	1	0.17	63	10.57
Florida	4	0.67	67	11.24
Georgia	7	1.17	74	12.42
Hawaii	1	0.17	75	12.58
Idaho	1	0.17	76	12.75
Illinois	65	10.91	141	23.66
Indiana	10	1.68	151	25.34
Iowa	3	0.50	154	25.84
Kansas	2	0.34	156	26.17
Kentucky	4	0.67	160	26.85
Louisiana	3	0.50	163	27.35
Maine	2	0.34	165	27.68
Maryland	4	0.67	169	28.36
Massachusetts	10	1.68	179	30.03
Michigan	139	23.32	318	53.36
Minnesota	3	0.50	321	53.86
Mississippi	3	0.50	324	54.36
Missouri	5	0.84	329	55.20
Nebraska	1	0.17	330	55.37
New Jersey	36	6.04	366	61.41
New Mexico	2	0.34	368	61.74
New York	25	4.19	393	65.94
North Carolina	2	0.34	395	66.28
North Dakota	2	0.34	397	66.61
Ohio	16	2.68	413	69.30
Oklahoma	29	4.87	442	74.16
Oregon	3	0.50	445	74.66
Pennsylvania	82	13.76	527	88.42
South Carolina	2	0.34	529	88.76
South Dakota	4	0.67	533	89.43
Tennessee	2	0.34	535	89.77
Texas	12	2.01	547	91.78
Vermont	1	0.17	548	91.95
Washington	6	1.01	554	92.95
West Virginia	5	0.84	559	93.79
Wisconsin	35	5.87	594	99.66
51	2	0.34	596	100.00

Frequency Missing = 42

mar_st	Frequency	Percent	Frequency	Percent
Married	417	65.36	417	65.36
Living with a partner	33	5.17	450	70.53
Separated	14	2.19	464	72.73
Divorced	64	10.03	528	82.76

105	Widowed	19	2.98	547	85.74
106	Never married	91	14.26	638	100.00

FORMAT LIBRARY OUTPUT

Below are images of the output from the FMTLIB.

Format Library

FORMAT NAME: COUNTRYFMT LENGTH: 13 MIN LENGTH: 1 MAX LENGTH: 40 DEFAULT LENGTH: 13 FUZZ: STD		
START	END	LABEL (VER. 9.4 04NOV2018:18:18:22)
1	1	United States
2	2	Canada
3	3	Mexico
OTHER	**OTHER**	Other

FORMAT NAME: MARSTFMT LENGTH: 21 NUMBER OF VALUES: 6 MIN LENGTH: 1 MAX LENGTH: 40 DEFAULT LENGTH: 21 FUZZ: STD		
START	END	LABEL (VER. V7 V8 04NOV2018:18:18:22)
1	1	Married
2	2	Living with a partner
3	3	Separated
4	4	Divorced
5	5	Widowed
6	6	Never married

FORMAT NAME: RACEFMT LENGTH: 5 NUMBER OF VALUES: 3 MIN LENGTH: 1 MAX LENGTH: 40 DEFAULT LENGTH: 5 FUZZ: STD		
START	END	LABEL (VER. V7 V8 04NOV2018:18:18:22)
3	3	White
4	4	Black
OTHER	**OTHER**	Other

FORMAT NAME: RIDPIC LENGTH: 4 NUMBER OF VALUES: 1 MIN LENGTH: 1 MAX LENGTH: 40 DEFAULT LENGTH: 4 FUZZ: STD		
START	END	LABEL (VER. V7 V8 04NOV2018:18:18:22)
LOW	HIGH	9999 P F M1

FORMAT NAME: STATE2FMT LENGTH: 14 MIN LENGTH: 1 MAX LENGTH: 40 DEFAULT LENGTH: 14 FUZZ: STD		
START	END	LABEL (VER. 9.4 04NOV2018:18:18:22)
1	1	Alabama
2	2	Alaska
3	3	Arizona
4	4	Arkansas
5	5	California
6	6	Colorado
7	7	Connecticut
8	8	Delaware
9	9	Florida
10	10	Georgia
11	11	Hawaii
12	12	Idaho
13	13	Illinois
14	14	Indiana
15	15	Iowa
16	16	Kansas
17	17	Kentucky
18	18	Louisiana
19	19	Maine
20	20	Maryland
21	21	Massachusetts
22	22	Michigan
23	23	Minnesota
24	24	Mississippi
25	25	Missouri
26	26	Montana
27	27	Nebraska
28	28	Nevada
29	29	New Hampshire
30	30	New Jersey
31	31	New Mexico
32	32	New York
33	33	North Carolina
34	34	North Dakota
35	35	Ohio
36	36	Oklahoma
37	37	Oregon
38	38	Pennsylvania
39	39	Rhode Island
40	40	South Carolina
41	41	South Dakota
42	42	Tennessee
43	43	Texas
44	44	Utah
45	45	Vermont
46	46	Virginia
47	47	Washington
48	48	West Virginia
FORMAT NAME: STATE2FMT LENGTH: 14 MIN LENGTH: 1 MAX LENGTH: 40 DEFAULT LENGTH: 14 FUZZ: STD		
START	END	LABEL (CONT'D)
49	49	Wisconsin
50	50	Wyoming

FORMAT NAME: SUBJPIC LENGTH: 8 NUMBER OF VALUES: 1 MIN LENGTH: 1 MAX LENGTH: 40 DEFAULT LENGTH: 8 FUZZ: STD		
START	END	LABEL (VER. V7 V8 04NOV2018:18:18:22)
LOW	HIGH	00-00000 P# F M1

SAS CODE

```
1  /*****
2  Kyle Salitrik
3  kps168
4  PSU ID: 997543474
5  November 4, 2018
6
7  This program covers Homework 9 for STAT 480.
8  *****/
9
10 LIBNAME STAT480 'C:\STAT480\';
11 DATA states;
12     set STAT480.state_cd (rename = (code = start name = label));
13     fmtname = 'state2fmt';
14 RUN;
15
16 * Create formats for data;
17 PROC FORMAT cntlin=states;
18     * Create picture for Subject;
19     PICTURE subjPic LOW-HIGH = '00-00000' (PREFIX='#');
20
21     * Create a picture for r_id;
22     PICTURE ridPic LOW-HIGH = '9999';
23
24     * Create value format for country;
25     VALUE countryFmt 1 = 'United States'
26                     2 = 'Canada'
27                     3 = 'Mexico'
28                     OTHER = 'Other';
29
30     * Create value format for race;
31     VALUE raceFmt 3 = 'White'
32                 4 = 'Black'
33                 OTHER = 'Other';
34
35     * Create a value format for marital status;
36     VALUE marStFmt 1 = 'Married'
37                  2 = 'Living with a partner'
38                  3 = 'Separated'
39                  4 = 'Divorced'
40                  5 = 'Widowed'
41                  6 = 'Never married';
42 RUN;
43
44 DATA backTemp;
45     * Load in dataset;
46     SET STAT480.back;
47     KEEP subj r_id country race state mar_st;
48 RUN;
49
50 PROC PRINT DATA=backTemp (OBS=10);
51     OPTIONS LS=80 NODATE NONUMBER;
52     title 'Demonstration of Subject Picture';
53     VAR subj;
54     FORMAT subj subjPic.;
55 RUN;
56
57 PROC FREQ data=backTemp;
58     title 'Frequency Count of All other Variables';
59     format
60         r_id ridPic.
61         country countryFmt.
62         race raceFmt.
63         state state2fmt.
64         mar_st marStFmt.;
```

```
65     table r_id country race state mar_st;  
66 RUN;  
67  
68 PROC FORMAT FMTLIB;  
69     title 'Format Library';  
70 RUN;
```

SAS LOG FILE

```
1 1 /*****
2 2 Kyle Salitrik
3 3 kps168
4 4 PSU ID: 997543474
5 5 November 4, 2018
6 6
7 7 This program covers Homework 9 for STAT 480.
8 8 *****/
9 9
10 10 LIBNAME STAT480 'C:\STAT480\';
11 NOTE: Libref STAT480 was successfully assigned as follows:
12     Engine:          V9
13     Physical Name: C:\STAT480
14 11 DATA states;
15 12     set STAT480.state_cd (rename = (code = start name = label));
16 13     fmtname = 'state2fmt';
17 14 RUN;
18
19 NOTE: There were 50 observations read from the data set STAT480.STATE_CD.
20 NOTE: The data set WORK.STATES has 50 observations and 3 variables.
21 NOTE: DATA statement used (Total process time):
22     real time          0.02 seconds
23     cpu time           0.03 seconds
24
25
26 15
27 16 * Create formats for data;
28 17 PROC FORMAT cntlin=states;
29 NOTE: Format STATE2FMT has been output.
30 18     * Create picture for Subject;
31 19     PICTURE subjPic LOW-HIGH = '00-00000' (PREFIX='#');
32 NOTE: Format SUBJPIC has been output.
33 20
34 21     * Create a picture for r_id;
35 22     PICTURE ridPic LOW-HIGH = '9999';
36 NOTE: Format RIDPIC has been output.
37 23
38 24     * Create value format for country;
39 25     VALUE countryFmt 1 = 'United States'
40 26                      2 = 'Canada'
41 27                      3 = 'Mexico'
42 28                      OTHER = 'Other';
43 NOTE: Format COUNTRYFMT has been output.
44 29
45 30     * Create value format for race;
46 31     VALUE raceFmt    3 = 'White'
47 32                      4 = 'Black'
48 33                      OTHER = 'Other';
49 NOTE: Format RACEFMT has been output.
50 34
51 35     * Create a value format for marital status;
52 36     VALUE marStFmt   1 = 'Married'
53 37                      2 = 'Living with a partner'
54 38                      3 = 'Separated'
55 39                      4 = 'Divorced'
56 40                      5 = 'Widowed'
57 41                      6 = 'Never married';
58 NOTE: Format MARSTFMT has been output.
59 42 RUN;
60
61 NOTE: PROCEDURE FORMAT used (Total process time):
62     real time          0.05 seconds
63     cpu time           0.03 seconds
64
```



```

65 NOTE: There were 50 observations read from the data set WORK.STATES.
66
67 43
68 44 DATA backTemp;
69 45     * Load in dataset;
70 46     SET STAT480.back;
71 47     KEEP subj r_id country race state mar_st;
72 48 RUN;
73
74 NOTE: There were 638 observations read from the data set STAT480.BACK.
75 NOTE: The data set WORK.BACKTEMP has 638 observations and 6 variables.
76 NOTE: DATA statement used (Total process time):
77     real time          0.01 seconds
78     cpu time           0.01 seconds
79
80
81 49
82 50 PROC PRINT DATA=backTemp(OBS=10);
83 51     OPTIONS LS=80 NODATE NONUMBER;
84 52     title 'Demonstration of Subject Picture';
85 53     VAR subj;
86 54     FORMAT  subj subjPic.;
87 55 RUN;
88
89 NOTE: There were 10 observations read from the data set WORK.BACKTEMP.
90 NOTE: PROCEDURE PRINT used (Total process time):
91     real time          0.03 seconds
92     cpu time           0.03 seconds
93
94
95 56
96 57 PROC FREQ data=backTemp;
97 58     title 'Frequency Count of All other Variables';
98 59     format
99 60         r_id    ridPic.
100 61         country countryFmt.
101 62         race    raceFmt.
102 63         state   state2fmt.
103 64         mar_st  marStFmt.;
104 65     table r_id country race state mar_st;
105 66 RUN;
106
107 NOTE: There were 638 observations read from the data set WORK.BACKTEMP.
108 NOTE: PROCEDURE FREQ used (Total process time):
109     real time          0.04 seconds
110     cpu time           0.03 seconds
111
112
113 67
114 68 PROC FORMAT FMTLIB;
115 69     title 'Format Library';
116 70 RUN;
117
118 NOTE: PROCEDURE FORMAT used (Total process time):
119     real time          0.00 seconds
120     cpu time           0.01 seconds
121
122 NOTE: Non-portable document will be produced. The current settings of FORMCHAR
123     use nonstandard line-drawing characters and the resulting output file
124     will not render correctly unless all readers of the document have the SAS
125     Monospace font installed. To make your document portable, issue the
126     following command:
127     OPTIONS FORMCHAR="|----|+|----+=|-/\\<>*"

```