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*
Programmed by: Leah Rohde
Programmed on: 2022-10-02
Programmed to: Create meta data and data outputson basic sales data

Modified by:
Modified on:
Modified to:
;


*setting using relative paths;
x "cd L:\st445\data";
libname InputDS ".";

x "cd L:\st445\Results";
libname Results ".";

x "cd S:\Rohde SAS Directory\HW3";
libname HW3 ".";
filename HW3 ".";

options fmtsearch = (HW3) nodate;
ods noproctitle;
ods listing close;
*creating rtf and pdf outputs;
ods rtf file = "HW3 Rohde Baseline Clinical Report.rtf" style = sapphire;
ods pdf file = "HW3 Rohde Baseline Clinical Report.pdf" style = printer;

*importing data;
x "cd L:\st445\data\BookData\ClinicalTrialCaseStudy";
filename RawData ".";

*creating macro to reapply labels;
%let VarAttrs =  Subj        Label = "Subject Number"
         sfReas      Label = "Screen Failure Reason" Length = $ 50
             sfStatus    Label = "Screen Failure Status (0 = Failed)" Length
= $ 1
             BioSex      Label = "Biological Sex" Length = $ 1
             VisitDate   Label = "Visit Date" Length = $ 10
             failDate    Label = "Failure Notification Date" Length = $ 10
             sbp         Label = "Systolic Blood Pressure"
             dbp         Label = "Diastolic Blood Pressure"
             bpUnits     Label = "Units (BP)" Length = $ 5
             pulse       Label = "Pulse"
             pulseUnits  Label = "Units (Pulse)" Length = $ 9
             position    Label = "Position" Length = $ 9
             temp        Label = "Temperature" Format = 5.1
             tempUnits   Label = "Units (Temp)" Length = $ 1
             weight      Label = "Weight"
             weightUnits Label = "Units (Weight)" Length = $ 2
             pain        Label = "Pain Score"
;

*sorting to match specified output given in assignment;
%let Valsort = DESCENDING sfStatus sfReas DESCENDING VisitDate DESCENDING
failDate Subj
```

```
;

*formatting data for each medical site;
filename RawData ".";
data HW3.RohdeSite1data;
  attrib &VarAttrs ;
  infile RawData ("Site 1, Baseline Visit.txt") truncover dlm="09"x dsd
firstobs = 1;
  input Subj sfReas $ sfStatus $ BioSex $ VisitDate $ failDate $ sbp dbp
bpUnits $
        pulse pulseUnits $ position $ temp tempUnits $ weight weightUnits $
pain;
run;

proc sort data = HW3.RohdeSite1data out = HW3.RohdeSite1;
    by &ValSort;

run;

filename RawData ".";
data HW3.RohdeSite2data;
  attrib &VarAttrs ;
  infile RawData ("Site 2, Baseline Visit.csv") truncover dsd firstobs = 1;
  input Subj sfReas $ sfStatus $ BioSex $ VisitDate $ failDate $ sbp dbp
bpUnits $
        pulse pulseUnits $ position $ temp tempUnits $ weight weightUnits $
pain;
run;

proc sort data = HW3.RohdeSite2data out = HW3.RohdeSite2;
    by &ValSort;

run;

x "cd L:\st445\data\BookData\ClinicalTrialCaseStudy";
filename RawData ".";
data HW3.RohdeSite3data;
  attrib &VarAttrs ;
  infile RawData ("Site 3, Baseline Visit.dat") truncover dsd firstobs = 1;
  input Subj 1-7 sfReas $8-58 sfStatus $59-61 BioSex $1.  VisitDate $63-72
failDate $73-82 sbp 83-85 dbp 86-88 bpUnits $89-94
        pulse 95-97 pulseUnits $98-107 position $ 108-120 temp 121-123
tempUnits $1. weight 125-127 weightUnits $128-131 pain 1.;
  *creating output in log to monitor missing pulse values;
  putlog 'NOTE: ' Pulse=;
run;

proc sort data = HW3.RohdeSite3data out = HW3.RohdeSite3;
    by &ValSort;

run;

*comparing my sorted data to professors to check accuracy;
proc compare base = TMP1.hw3dugginssite3 compare = HW3.RohdeSite3 out =
work.diff3
    outbase outcompare outdiff outnoequal noprint
      method = absolute criterion = 1E-10
```

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;
run;
x "cd S:\Rohde SAS Directory\HW3";

*creating output specifications;
ods pdf select position sortedby;
ods rtf select position sortedby;

*titles, footnotes, and font according to specifications;
title 'Variable-level Attributes and Sort Information: Site 1 at Baseline
Visit 1';
footnote j = left h = 10pt "Prepared by &sysuserid on &SysDate";
proc contents data = HW3.RohdeSite1 varnum;
run;
title;
footnote;

ods pdf select position sortedby;
ods rtf select position sortedby;

title 'Variable-level Attributes and Sort Information: Site 2 at Baseline
Visit 2';
footnote j = left h = 10pt "Prepared by &sysuserid on &SysDate";
proc contents data = HW3.RohdeSite2 varnum;
run;
title;
footnote;


ods pdf select position sortedby;
ods rtf select position sortedby;

title 'Variable-level Attributes and Sort Information: Site 3 at Baseline
Visit 3';
footnote j = left h = 10pt "Prepared by &sysuserid on &SysDate";
proc contents data = HW3.RohdeSite3 varnum;
run;
title;
footnote;

*powerpoint intended to have dirrect outputs than rtf and pdf files;
ods powerpoint file = "HW3 Rohde Baseline Clinical Report.pptx" style =
powerpointdark;

title 'Selected Summary Statistics on Measurements';
title2 'for Patients from Site 1 at Baseline Visit';
footnote j = left h = 10pt 'Statistic and SAS keyword: Sample size (n), Mean
(mean), Standard Deviation (stddev), Median (median), IQR (qrange)';
footnote2 j = left h = 10pt "Prepared by &sysuserid on &SysDate";
proc means data = HW3.RohdeSite1 nonobs n mean std median qrange maxdec = 1;
  class pain;
  var weight temp pulse dbp sbp;

run;
title;
footnote;
```

```
proc format library = HW3;
  value sbp (fuzz = 0)
      0 - 129 = "Acceptable"
    129 - high = "High"
;
  value dbp (fuzz = 0)
      0 - 79 = "Acceptable"
    79 - high = "High"
;

run;

ods pdf columns = 2;

title "Frequency Analysis of Positions and Pain Measurements by Blood
Pressure Status 5";
title2 "for Patients from Site 2 at Baseline Visit";
footnote "Hypertension (high blood pressure) begins when systolic reaches 130
or diastolic reaches 80";
proc freq data = HW3.RohdeSite2;
  table position / nocum;
  table position / nofreq nopercent;
  table pain*dbp*sbp / nocol norow;
  format dbp dbp. sbp sbp.;
run;
title;
footnote;
ods powerpoint close;

ods pdf columns = 1;

title 'Selected Listing of Patients with a Screen Failure and Hypertension';
title2 "for Patients from Site 3 at Baseline Visit";
footnote j = left h = 10pt "Hypertension (high blood pressure) begins when
systolic reaches 130 or diastolic reaches 80";
footnote2 j = left h = 10pt "Only patients with a screen failure are
included.";
footnote3 j = left h = 10pt "Prepared by &sysUserID on &sysDate";
proc print data = HW3.RohdeSite3 noobs label;
  var subj pain visitdate sfStatus sfReas faildate;
  var subj pain biosex sbp dbp bpunits weight weightunits;
  where sfStatus eq '0';
run;
title;
footnote;

*output pdf and rtf;
ods pdf close;
ods rtf close;
ods listing;

quit;
```

Variable-level Attributes and Sort Information: Site 1 at Baseline Visit 1

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	Subj	Num	8		Subject Number
2	sfReas	Char	50		Screen Failure Reason
3	sfStatus	Char	1		Screen Failure Status (0 = Failed)
4	BioSex	Char	1		Biological Sex
5	VisitDate	Char	10		Visit Date
6	failDate	Char	10		Failure Notification Date
7	sbp	Num	8		Systolic Blood Pressure
8	dbp	Num	8		Diastolic Blood Pressure
9	bpUnits	Char	5		Units (BP)
10	pulse	Num	8		Pulse
11	pulseUnits	Char	9		Units (Pulse)
12	position	Char	9		Position
13	temp	Num	8	5.1	Temperature
14	tempUnits	Char	1		Units (Temp)
15	weight	Num	8		Weight
16	weightUnits	Char	2		Units (Weight)
17	pain	Num	8		Pain Score

Sort Information	
Sortedby	DESCENDING sfStatus sfReas DESCENDING VisitDate DESCENDING failDate Subj
Validated	YES
Character Set	ANSI

Variable-level Attributes and Sort Information: Site 2 at Baseline Visit 2

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	Subj	Num	8		Subject Number
2	sfReas	Char	50		Screen Failure Reason
3	sfStatus	Char	1		Screen Failure Status (0 = Failed)
4	BioSex	Char	1		Biological Sex
5	VisitDate	Char	10		Visit Date
6	failDate	Char	10		Failure Notification Date
7	sbp	Num	8		Systolic Blood Pressure
8	dbp	Num	8		Diastolic Blood Pressure
9	bpUnits	Char	5		Units (BP)
10	pulse	Num	8		Pulse
11	pulseUnits	Char	9		Units (Pulse)
12	position	Char	9		Position
13	temp	Num	8	5.1	Temperature
14	tempUnits	Char	1		Units (Temp)
15	weight	Num	8		Weight
16	weightUnits	Char	2		Units (Weight)
17	pain	Num	8		Pain Score

Sort Information	
Sortedby	DESCENDING sfStatus sfReas DESCENDING VisitDate DESCENDING failDate Subj
Validated	YES
Character Set	ANSI

Variable-level Attributes and Sort Information: Site 3 at Baseline Visit 3

Variables in Creation Order					
#	Variable	Type	Len	Format	Label
1	Subj	Num	8		Subject Number
2	sfReas	Char	50		Screen Failure Reason
3	sfStatus	Char	1		Screen Failure Status (0 = Failed)
4	BioSex	Char	1		Biological Sex
5	VisitDate	Char	10		Visit Date
6	failDate	Char	10		Failure Notification Date
7	sbp	Num	8		Systolic Blood Pressure
8	dbp	Num	8		Diastolic Blood Pressure
9	bpUnits	Char	5		Units (BP)
10	pulse	Num	8		Pulse
11	pulseUnits	Char	9		Units (Pulse)
12	position	Char	9		Position
13	temp	Num	8	5.1	Temperature
14	tempUnits	Char	1		Units (Temp)
15	weight	Num	8		Weight
16	weightUnits	Char	2		Units (Weight)
17	pain	Num	8		Pain Score

Sort Information	
Sortedby	DESCENDING sfStatus sfReas DESCENDING VisitDate DESCENDING failDate Subj
Validated	YES
Character Set	ANSI

Selected Summary Statistics on Measurements for Patients from Site 1 at Baseline Visit

Pain Score	Variable	Label	N	Mean	Std Dev	Median	Quartile Range
0	weight	Weight	14	177.4	29.2	171.5	36.0
	temp	Temperature	14	98.5	0.5	98.5	0.6
	pulse	Pulse	14	72.3	8.9	72.5	16.0
	dbp	Diastolic Blood Pressure	14	77.0	8.4	77.5	14.0
	sbp	Systolic Blood Pressure	14	104.4	8.9	101.0	11.0
1	weight	Weight	12	162.1	34.2	161.5	39.5
	temp	Temperature	12	98.5	0.6	98.9	0.8
	pulse	Pulse	12	72.3	10.7	73.5	16.5
	dbp	Diastolic Blood Pressure	12	76.1	11.3	79.5	22.5
	sbp	Systolic Blood Pressure	12	104.8	16.2	103.5	26.0
2	weight	Weight	17	143.0	29.7	133.0	45.0
	temp	Temperature	17	98.6	0.5	98.4	0.8
	pulse	Pulse	17	73.4	10.5	75.0	14.0
	dbp	Diastolic Blood Pressure	17	77.1	9.7	79.0	12.0
	sbp	Systolic Blood Pressure	17	100.9	13.8	103.0	15.0
3	weight	Weight	22	154.8	34.3	141.5	47.0
	temp	Temperature	22	98.4	0.6	98.4	0.8
	pulse	Pulse	22	73.5	10.9	76.5	16.0
	dbp	Diastolic Blood Pressure	22	76.6	9.8	77.5	14.0
	sbp	Systolic Blood Pressure	22	100.3	11.5	98.5	15.0
4	weight	Weight	26	166.4	30.6	169.0	46.0
	temp	Temperature	26	98.5	0.6	98.5	1.0
	pulse	Pulse	26	72.2	9.3	73.0	12.0
	dbp	Diastolic Blood Pressure	26	76.4	8.7	78.0	9.0
	sbp	Systolic Blood Pressure	26	105.4	9.9	106.5	14.0

Frequency Analysis of Positions and Pain Measurements by Blood Pressure Status 5 for Patients from Site 2 at Baseline Visit

Position		
position	Frequency	Percent
RECLINED	23	20.54
SEATED	42	37.50
SITTING	47	41.96

Position		
position	Frequency	Cumulative Frequency
RECLINED	23	23
SEATED	42	65
SITTING	47	112

Table 1 of dbp by sbp			
Controlling for pain=0			
dbp(Diastolic Blood Pressure)	sbp(Systolic Blood Pressure)		
Frequency Percent	Acceptable	High	Total
Acceptable	6 42.86	0 0.00	6 42.86
High	8 57.14	0 0.00	8 57.14
Total	14 100.00	0 0.00	14 100.00

Frequency Analysis of Positions and Pain Measurements by Blood Pressure Status 5 for Patients from Site 2 at Baseline Visit

Table 2 of dbp by sbp			
Controlling for pain=1			
dbp(Diastolic Blood Pressure)	sbp(Systolic Blood Pressure)		
Frequency Percent	Acceptable	High	Total
Acceptable	4 30.77	0 0.00	4 30.77
High	9 69.23	0 0.00	9 69.23
Total	13 100.00	0 0.00	13 100.00

Table 3 of dbp by sbp			
Controlling for pain=2			
dbp(Diastolic Blood Pressure)	sbp(Systolic Blood Pressure)		
Frequency Percent	Acceptable	High	Total
Acceptable	6 60.00	0 0.00	6 60.00
High	4 40.00	0 0.00	4 40.00
Total	10 100.00	0 0.00	10 100.00

Frequency Analysis of Positions and Pain Measurements by Blood Pressure Status 5 for Patients from Site 2 at Baseline Visit

Table 4 of dbp by sbp			
Controlling for pain=3			
dbp(Diastolic Blood Pressure)	sbp(Systolic Blood Pressure)		
Frequency Percent	Acceptable	High	Total
Acceptable	7 50.00	0 0.00	7 50.00
High	7 50.00	0 0.00	7 50.00
Total	14 100.00	0 0.00	14 100.00

Table 5 of dbp by sbp			
Controlling for pain=4			
dbp(Diastolic Blood Pressure)	sbp(Systolic Blood Pressure)		
Frequency Percent	Acceptable	High	Total
Acceptable	12 52.17	0 0.00	12 52.17
High	11 47.83	0 0.00	11 47.83
Total	23 100.00	0 0.00	23 100.00

Selected Listing of Patients with a Screen Failure and Hypertension for Patients from Site 3 at Baseline Visit

Subject Number	Pain Score	Visit Date	Screen Failure Status (0 = Failed)	Screen Failure Reason	Failure Notification Date	Subject Number
16	.	31/01/2018	0	High Blood Pressure	31/01/2018	16
22	.	31/01/2018	0	High Blood Pressure	31/01/2018	22
100	.	29/03/2018	0	High Blood Pressure	29/03/2018	100
19	.	28/01/2018	0	High Blood Pressure	28/01/2018	19
52	.	27/02/2018	0	High Blood Pressure	27/02/2018	52
10	.	26/01/2018	0	High Blood Pressure	26/01/2018	10
12	.	26/01/2018	0	High Blood Pressure	26/01/2018	12
15	.	26/01/2018	0	High Blood Pressure	26/01/2018	15
48	.	25/02/2018	0	High Blood Pressure	25/02/2018	48
88	.	24/03/2018	0	High Blood Pressure	24/03/2018	88
7	.	24/01/2018	0	High Blood Pressure	24/01/2018	7
46	.	23/02/2018	0	High Blood Pressure	23/02/2018	46
11	.	23/01/2018	0	High Blood Pressure	23/01/2018	11
2	.	22/01/2018	0	High Blood Pressure	22/01/2018	2
6	.	22/01/2018	0	High Blood Pressure	22/01/2018	6
120	.	19/04/2018	0	High Blood Pressure	19/04/2018	120
41	.	18/02/2018	0	High Blood Pressure	18/02/2018	41
118	.	17/04/2018	0	High Blood Pressure	17/04/2018	118
119	.	17/04/2018	0	High Blood Pressure	17/04/2018	119
77	.	16/03/2018	0	High Blood Pressure	16/03/2018	77
117	.	15/04/2018	0	High Blood Pressure	15/04/2018	117
80	.	15/03/2018	0	High Blood Pressure	15/03/2018	80
110	.	13/04/2018	0	High Blood Pressure	13/04/2018	110
71	.	12/03/2018	0	High Blood Pressure	12/03/2018	71
111	.	11/04/2018	0	High Blood Pressure	11/04/2018	111
108	.	09/04/2018	0	High Blood Pressure	09/04/2018	108

Hypertension (high blood pressure) begins when systolic reaches 130 or diastolic reaches 80
Only patients with a screen failure are included.
Prepared by lrohde2 on 11MAY23

Selected Listing of Patients with a Screen Failure and Hypertension for Patients from Site 3 at Baseline Visit

Subject Number	Pain Score	Visit Date	Screen Failure Status (0 = Failed)	Screen Failure Reason	Failure Notification Date	Subject Number
112	.	09/04/2018	0	High Blood Pressure	09/04/2018	112
28	.	08/02/2018	0	High Blood Pressure	08/02/2018	28
30	.	08/02/2018	0	High Blood Pressure	08/02/2018	30
107	.	07/04/2018	0	High Blood Pressure	07/04/2018	107
104	.	06/04/2018	0	High Blood Pressure	06/04/2018	104
59	.	06/03/2018	0	High Blood Pressure	06/03/2018	59
103	.	05/04/2018	0	High Blood Pressure	05/04/2018	103
58	.	05/03/2018	0	High Blood Pressure	05/03/2018	58
29	.	05/02/2018	0	High Blood Pressure	05/02/2018	29
20	.	02/02/2018	0	High Blood Pressure	02/02/2018	20
25	.	02/02/2018	0	High Blood Pressure	02/02/2018	25
98	0	31/03/2018	0	LOW BASELINE PAIN	31/03/2018	98
17	0	30/01/2018	0	LOW BASELINE PAIN	30/01/2018	17
94	0	29/03/2018	0	LOW BASELINE PAIN	29/03/2018	94
21	0	29/01/2018	0	LOW BASELINE PAIN	29/01/2018	21
89	0	24/03/2018	0	LOW BASELINE PAIN	24/03/2018	89
44	0	23/02/2018	0	LOW BASELINE PAIN	23/02/2018	44
45	0	22/02/2018	0	LOW BASELINE PAIN	22/02/2018	45
42	0	19/02/2018	0	LOW BASELINE PAIN	19/02/2018	42
38	0	18/02/2018	0	LOW BASELINE PAIN	18/02/2018	38
32	0	10/02/2018	0	LOW BASELINE PAIN	10/02/2018	32
106	0	07/04/2018	0	LOW BASELINE PAIN	07/04/2018	106

Pain Score	Biological Sex	Systolic Blood Pressure	Diastolic Blood Pressure	Units (BP)	Weight	Units (Weight)
.	M	121	101	mm hg	44	KG

Hypertension (high blood pressure) begins when systolic reaches 130 or diastolic reaches 80
Only patients with a screen failure are included.
Prepared by lrohde2 on 11MAY23

Selected Listing of Patients with a Screen Failure and Hypertension for Patients from Site 3 at Baseline Visit

Pain Score	Biological Sex	Systolic Blood Pressure	Diastolic Blood Pressure	Units (BP)	Weight	Units (Weight)
.	M	130	104	mm hg	47	KG
.	F	129	94	mm hg	36	KG
.	F	121	95	mm hg	30	KG
.	M	113	92	mm hg	42	KG
.	F	112	91	mm hg	28	KG
.	F	130	100	mm hg	35	KG
.	F	137	100	mm hg	34	KG
.	F	122	96	mm hg	34	KG
.	M	117	99	mm hg	41	KG
.	M	125	92	mm hg	53	KG
.	F	139	105	mm hg	36	KG
.	M	125	111	mm hg	46	KG
.	M	151	111	mm hg	52	KG
.	M	144	112	mm hg	55	KG
.	M	129	102	mm hg	53	KG
.	M	125	104	mm hg	45	KG
.	F	139	107	mm hg	40	KG
.	M	124	106	mm hg	49	KG
.	M	115	91	mm hg	42	KG
.	F	119	97	mm hg	33	KG
.	F	125	101	mm hg	35	KG
.	M	108	96	mm hg	42	KG
.	M	110	91	mm hg	42	KG
.	M	132	107	mm hg	47	KG
.	M	122	95	mm hg	48	KG
.	F	128	113	mm hg	31	KG
.	M	122	94	mm hg	43	KG

Hypertension (high blood pressure) begins when systolic reaches 130 or diastolic reaches 80
Only patients with a screen failure are included.
Prepared by lrohde2 on 11MAY23

Selected Listing of Patients with a Screen Failure and Hypertension for Patients from Site 3 at Baseline Visit

Pain Score	Biological Sex	Systolic Blood Pressure	Diastolic Blood Pressure	Units (BP)	Weight	Units (Weight)
.	F	143	110	mm hg	41	KG
.	M	148	104	mm hg	50	KG
.	F	124	100	mm hg	27	KG
.	F	129	99	mm hg	35	KG
.	F	127	106	mm hg	30	KG
.	F	140	93	mm hg	41	KG
.	F	126	104	mm hg	32	KG
.	F	118	91	mm hg	29	KG
.	F	135	101	mm hg	38	KG
0	M	109	89	mm hg	39	KG
0	M	101	70	mm hg	29	KG
0	M	109	88	mm hg	40	KG
0	M	120	81	mm hg	45	KG
0	F	106	84	mm hg	28	KG
0	M	87	72	mm hg	30	KG
0	M	108	86	mm hg	33	KG
0	F	133	87	mm hg	32	KG
0	M	101	75	mm hg	32	KG
0	F	118	82	mm hg	28	KG
0	F	88	58	mm hg	26	KG

Hypertension (high blood pressure) begins when systolic reaches 130 or diastolic reaches 80
Only patients with a screen failure are included.
Prepared by lrohde2 on 11MAY23