Let's Make Forest Plot by SAS

Shinichi Hotta

Development Operations, Pfizer Japan Inc.

This document contains the sample codes for the poster, "Let's Make Forest Plot by SAS" in the poster session at SAS Forum user group 2014.

- You can freely use the sample codes in this document, if modified or not.
- The author does not take any responsibility for the results by the sample codes.
- If any questions, please contact E-mail shinichi.hotta@pfizer.com

```
*****************************************************************************************
Sample dataset for GPLOT procedure in slide 5 : byage2
Descriptions for variables
rowid : The variable for the group names to vertically plot left.
rowid2 : The variable for the group names to vertically plot right, formatted in this example.
n_subj : The number of the subjects.
bplot : The variables for the estimates and the intervals to horizontally plot.
***************************************************************************************** ;
data class;
set sashelp.class;
length agegroup $20;
if age>14 then agegroup="High Group";
else if age=14 then agegroup="H-Middle Group";
else if age=13 then agegroup="L-Middle Group";
else agegroup="Low Group";
run;

proc means data=class;
class agegroup;
var weight;
output out=byage n=count min=minimum max=maximum median=median mean=average;
run;

data byage1;
set byage;
length start $20 fmtname $8 label $20;
fmtname='$avg';
label=compbl('mean='||put(average,8.2));
start=agegroup;
where _type_=1;
run;

proc format cntlin=byage1;
run;

data byage2(keep=rowid rowid2 n_subj bplot);
set byage(where=(_type_=1));
length rowid $20 rowid2 $20;
rowid=agegroup;
n_subj=count;
bplot=minimum;
output;
rowid=agegroup;
bplot=maximum;
output;
rowid='';
rowid2=agegroup;
bplot=average;
output;
format rowid2 $avg.;
run;
```

```
*****************************************************************************************
Sample dataset including overall result for GPLOT procedure with Annotate facility in slide 8 : anno_age
Descriptions for variables
rowid : Same as rowid in slide 5.
yc : Renamed from rowid2 in slide 5 for Annotate facility.
size : Renamed from n_subj in slide 5 for Annotate facility.
x : Renamed from bplot in slide 5 for Annotate facility.
function : Based on the specifications for Annotate facility.
text : Based on the specifications for Annotate facility.
cbox : Based on the specifications for Annotate facility.
xsys : Based on the specifications for Annotate facility.
ysys : Based on the specifications for Annotate facility.
***************************************************************************************** ;
data class;
set sashelp.class;
length agegroup $20;
if age>14 then agegroup="High Group";
else if age=14 then agegroup="H-Middle Group";
else if age=13 then agegroup="L-Middle Group";
else agegroup="Low Group";
run;

proc means data=class;
class agegroup;
var weight;
output out=byage n=count min=minimum max=maximum median=median mean=average;
run;

data byage1;
set byage;
length start $20 fmtname $8 label $20;
fmtname='$avg';
label=compbl('mean='||put(average,8.2));
if agegroup eq '' then agegroup='Overall';
start=agegroup;
run;

proc format cntlin=byage1;
run;

data byage2(keep=rowid rowid2 n_subj bplot);
set byage;
length rowid $20 rowid2 $20;
if agegroup eq '' then agegroup='Overall';
rowid=agegroup;
n_subj=count;
bplot=minimum;
output;
rowid=agegroup;
bplot=maximum;
output;
rowid='';
rowid2=agegroup;
bplot=average;
output;
format rowid2 $avg.;
run;

data anno_age(rename=(bplot=x rowid2=yc n_subj=size));
set byage2;
```

```
length function text cbox $8;
xsys='2'; ysys='2';
if rowid2='Overall' then do;
text='diamond';
function='symbol';
end;
else if rowid2 ne '' then do;
text='';
cbox='black';
function='symbol';
end;
run;
```

****
Sample code 1
The example for GPLOT procedure by SAS8.2. in slide 4.
********** ;

```
axis1 label=(height=6pct font='Arial' 'Avg/Range of BW(lb)') order=(30 to 150 by 30) value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5);
axis2 label=(height=6pct font='Arial' 'Age') order=("Low Group" "L-Middle Group" "H-Middle Group" "High Group") value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5) style=0;
axis3 label=none order=("Low Group" "L-Middle Group" "H-Middle Group" "High Group") value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5) style=0;

symbol repeat=99 interpol=join color=black width=5;

proc gplot data=byage2;
plot rowid*bplot=rowid/vaxis=axis2 haxis=axis1 nolegend;
bubble2 rowid2*bplot=n_subj/vaxis=axis3 bsize=9 bcolor=black;
run;
quit;
```

****
Sample code 2
The example for GPLOT procedure by SAS9.2. in slide 6.
********** ;

```
axis1 label=(height=6pct font='Arial' 'Avg/Range of BW(lb)') order=(30 to 150 by 30)  value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5);
axis2 label=(height=6pct font='Arial' 'Age') order=("Low Group" "L-Middle Group" "H-Middle Group" "High Group") value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5) style=0;
axis3 label=none order=("Low Group" "L-Middle Group" "H-Middle Group" "High Group") value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5) style=0;

symbol repeat=99 interpol=join color=black width=5 font=swiss value=| height=3pct;

proc gplot data=byage2;
plot rowid*bplot=rowid/vaxis=axis2 haxis=axis1 nolegend;
bubble2 rowid2*bplot=n_subj/vaxis=axis3 bsize=9 bcolor=black bfill=solid;
run;
quit;
```

****
Sample code 3
The example for GPLOT procedure with Annotate facility in slide 7.
********** ;

```
axis1 label=(height=6pct font='Arial' 'Avg/Range of BW(lb)') order=(30 to 150 by 30)  value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5);
axis2 label=(height=6pct font='Arial' 'Age') order=("Overall" "Low Group" "L-Middle Group" "H-Middle Group" "High Group") value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5) style=0;
axis3 label=none order=("Overall" "Low Group" "L-Middle Group" "H-Middle Group" "High Group") value=(height=4pct font='Arial') major=(height=1.0) minor=none offset=(5,5) style=0;

symbol repeat=99 interpol=join color=black width=5 font=swiss value=| height=3pct;
proc gplot data=anno_age annotate=anno_age;
plot rowid*x=rowid/vaxis=axis2 haxis=axis1 nolegend;
plot2 yc*x=yc/vaxis=axis3 nolegend;
run;
quit;
```