```sas
*SAS Bland Altman Analysis;

/*
The Bland-Altman analysis is a process to verify the extent of agreement
or disagreement between two methods designed to measure same parameters.
A high correlation between the methods indicate that good enough sample has
been chosen in data analysis. In SAS we create a Bland-Altman plot by calculating
the mean, upper limit and lower limit of the variable values.
We then use PROC SGPLOT to create the Bland-Altman plot

Syntax:
PROC SGPLOT DATA = dataset;
SCATTER X = variable Y = Variable;
REFLINE value;


SCATTER - statement cerates the scatter plot graph of the value supplied in form of X and Y.

REFLINE - creates a horizontal or vertical reference line.
*/
data mydata;
input new old;
datalines;
31 45
27 12
11 37
36 25
14 8
27 15
3 11
62 42
38 35
20 9
35 54
62 67
48 25
77 64
45 53
32 42
16 19
15 27
22 9
8 38
24 16
59 25
;
run;

data diffs ;
set mydata ;
/* calculate the difference */
diff = new-old ;
/* calculate the average */
mean = (new+old)/2 ;
run ;
proc print data = diffs;
run;

proc sql noprint ;
select mean(diff)-2*std(diff),  mean(diff)+2*std(diff)
into   :lower,  :upper
from diffs ;
quit;

proc sgplot data = diffs ;
scatter x = mean y = diff;
refline 0 &upper &lower / LABEL = ("zero bias line" "95% upper limit" "95%
lower limit");
TITLE 'Bland-Altman Plot';
footnote 'Accurate prediction with 10% homogeneous error';
run ;
quit ;
```

```sas
*Enhanced Model;
/*
In an enhanced model of the above
 program we get 95 percent confidence level curve fitting.
*/
proc sgplot data = diffs ;
reg x = new y = diff/clm clmtransparency = .5;
needle x = new y = diff/baseline = 0;
refline 0 / LABEL = ('No diff line');
TITLE 'Enhanced Bland-Altman Plot';
footnote 'Accurate prediction with 10% homogeneous error';
run ;
quit ;
```