

```

/* SAS program for 1-way AOV */
/* Data from ex 8.2, text */

options nocenter ls=72;
data;
input y trt;
cards;
96 1
79 1
91 1
85 1
83 1
91 1
82 1
87 1
77 2
76 2
74 2
73 2
78 2
71 2
80 2
66 3
73 3
69 3
66 3
77 3
73 3
71 3
70 3
74 3
;
proc glm;
  class trt;
  model y=trt;
  means trt;
  means trt / lsd;
  output out=new predicted=yhat residual=res;
proc rank normal=blom;
  var res;

```

```

ranks nscore;

proc plot;
  plot res*yhat;
  plot res*nscore;
run;

```

The GLM Procedure

Class Level Information

Class	Levels	Values
trt	3	1 2 3

Number of observations 24

Dependent Variable: y

Source	DF	Sum of Squares	Mean Square	F Value
Model	2	1090.619048	545.309524	29.57
Error	21	387.214286	18.438776	
Corrected Total	23	1477.833333		

Source	Pr > F
Model	<.0001
Error	

Corrected Total

R-Square	Coeff Var	Root MSE	y Mean
0.737985	5.534745	4.294040	77.58333

Source	DF	Type I SS	Mean Square	F Value
trt	2	1090.619048	545.309524	29.57

Source	Pr > F
trt	<.0001

Source	DF	Type III SS	Mean Square	F Value
trt	2	1090.619048	545.309524	29.57

Source	Pr > F
trt	<.0001

Level of	-----y-----		
trt	N	Mean	Std Dev
1	8	86.7500000	5.62519841
2	7	75.5714286	3.10145895
3	9	71.0000000	3.67423461

t Tests (LSD) for y

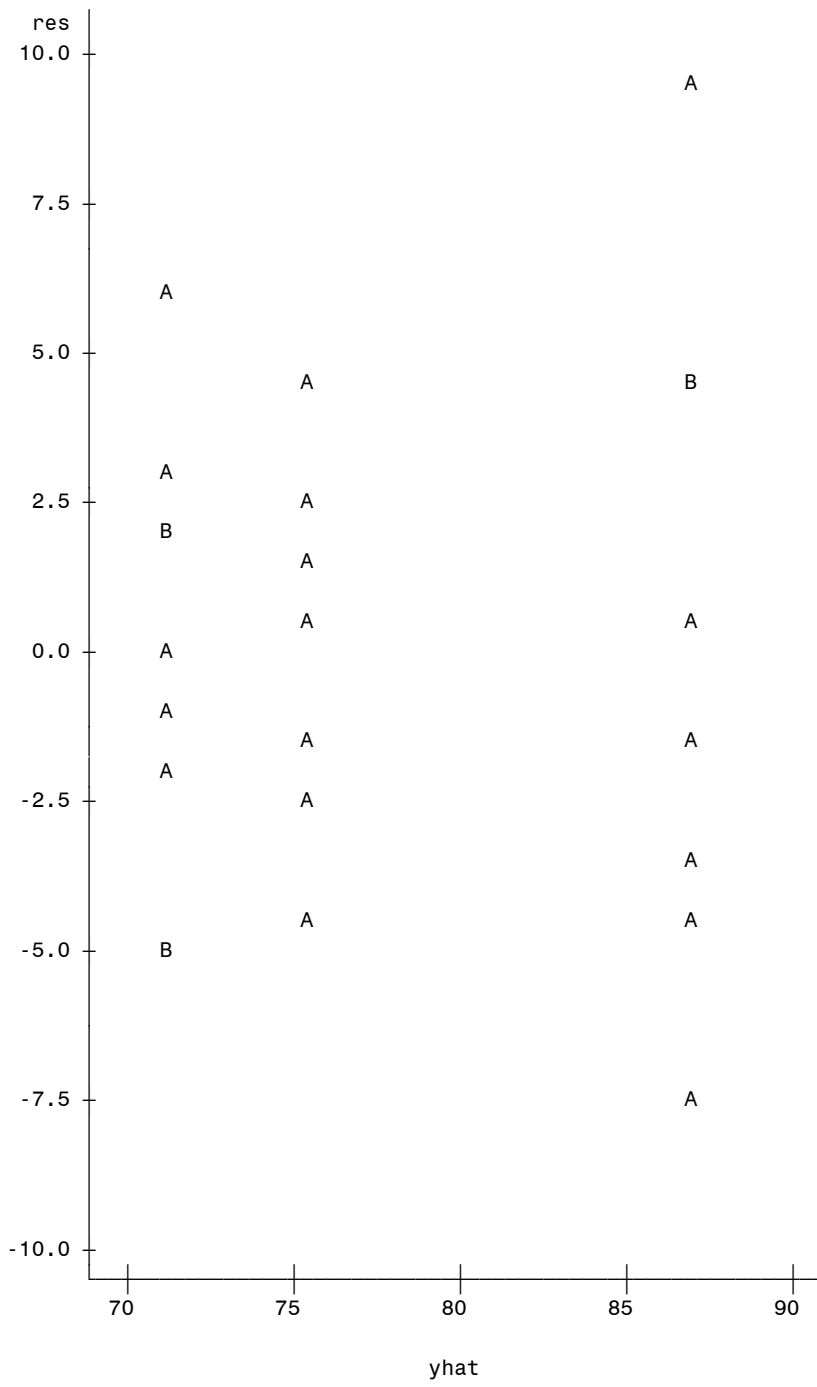
NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha 0.05
 Error Degrees of Freedom 21
 Error Mean Square 18.43878
 Critical Value of t 2.07961

Comparisons significant at the 0.05 level are indicated by ***.

trt	Difference	95% Confidence		
Comparison	Between Means	Limits		
1 - 2	11.179	6.557	15.800	***
1 - 3	15.750	11.411	20.089	***
2 - 1	-11.179	-15.800	-6.557	***
2 - 3	4.571	0.071	9.072	***
3 - 1	-15.750	-20.089	-11.411	***
3 - 2	-4.571	-9.072	-0.071	***

Plot of res*yhat. Legend: A = 1 obs, B = 2 obs, etc.



Plot of res*nscore. Legend: A = 1 obs, B = 2 obs, etc.

