```
/*  SAS program for an RCBD, using data from  */
/*  example 15.2, p. 868.   Experimental unit */
/*  is a row of 100 seeds, response variable  */
/*  is # seedlings emerged per row, block is  */
/*  plot of land, treatment is insecticide.   */
options nocenter ls=72;
data;
  input y trt block;
  cards;
  56 1 1
  48 1 2
  66 1 3
  62 1 4
  83 2 1
  78 2 2
  94 2 3
  93 2 4
  80 3 1
  72 3 2
  83 3 3
  85 3 4
  ;
proc glm;
  class trt block;
  model y=block trt;
  contrast 'b1 v b2' block 1 -1 0 0;
  contrast 'b1 v b3' block 1 0 -1 0;
  contrast 'b1 v b4' block 1 0 0 -1;
  contrast 'b2 v b3' block 0 1 -1 0;
  contrast 'b2 v b4' block 0 1 0 -1;
  contrast 'b3 v b4' block 0 0 1 -1;
  contrast 't1 v t2' trt 1 -1 0;
  contrast 't1 v t3' trt 1 0 -1;
  contrast 't2 v t3' trt 0 1 -1;
  output out=new predicted=yhat residuals=res;
proc rank normal=blom;
  var res;
  ranks nscore;
proc plot;
  plot nscore*res;
  plot res*yhat;
run;
```

The GLM Procedure

Class Level Information

Class	Levels	Values
trt	3	1 2 3
block	4	1 2 3 4

Number of observations 12

Dependent Variable: y

Source	DF	Sum of Squares	Mean Square	F Value
Model	5	2270.000000	454.000000	104.77
Error	6	26.000000	4.333333	
Corrected Total	11	2296.000000		

Source	Pr > F
Model	<.0001
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	y Mean
0.988676	2.775555	2.081666	75.00000

Source	DF	Type I SS	Mean Square	F Value
block	3	438.000000	146.000000	33.69
trt	2	1832.000000	916.000000	211.38

Source	Pr > F
block	0.0004
trt	<.0001

Source	DF	Type III SS	Mean Square	F Value
block	3	438.000000	146.000000	33.69
trt	2	1832.000000	916.000000	211.38

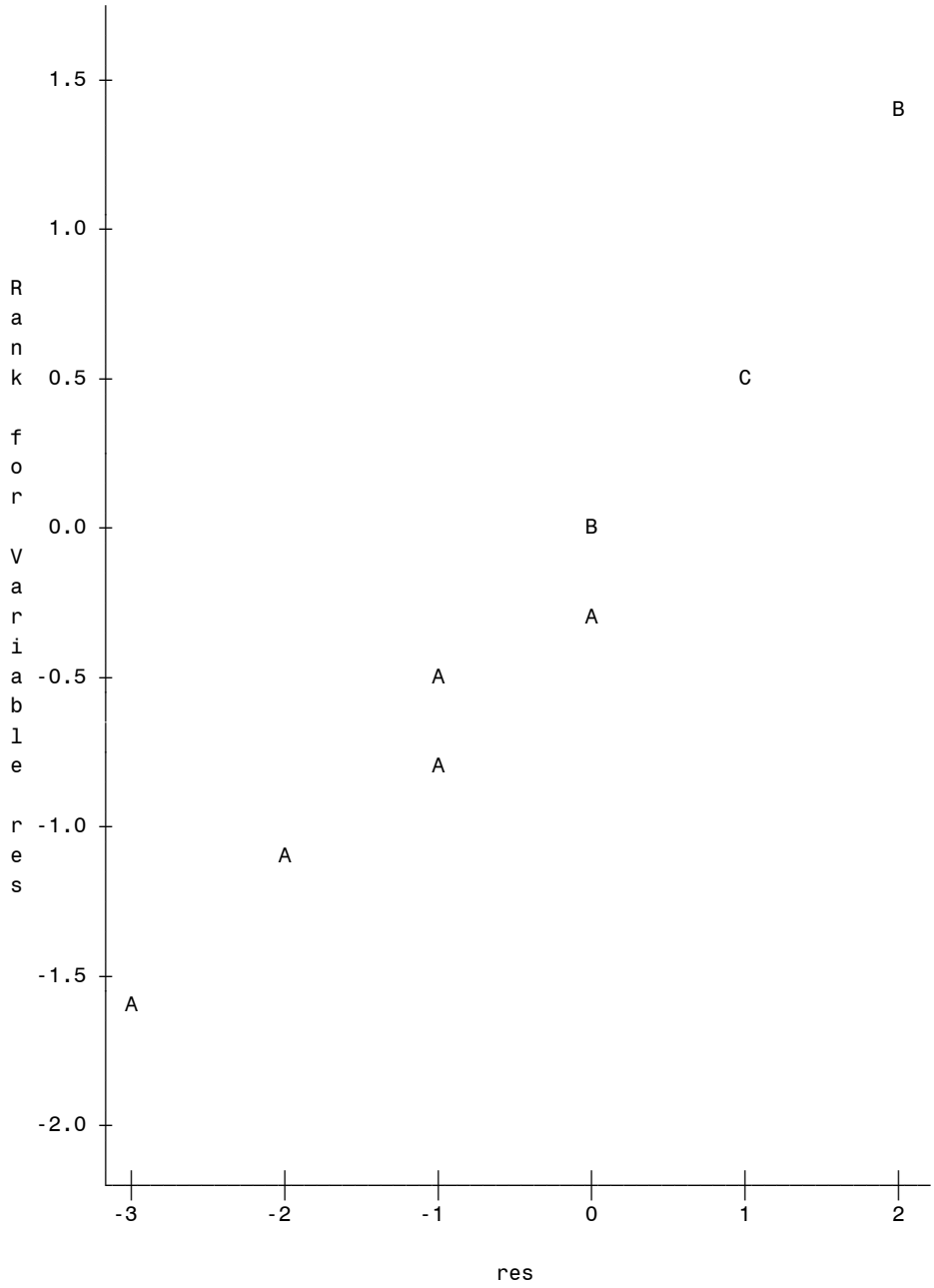
Source	Pr > F
block	0.0004
trt	<.0001

Dependent Variable: y

Contrast	DF	Contrast SS	Mean Square	F Value
b1 v b2	1	73.500000	73.500000	16.96
b1 v b3	1	96.000000	96.000000	22.15
b1 v b4	1	73.500000	73.500000	16.96
b2 v b3	1	337.500000	337.500000	77.88
b2 v b4	1	294.000000	294.000000	67.85
b3 v b4	1	1.500000	1.500000	0.35
t1 v t2	1	1682.000000	1682.000000	388.15
t1 v t3	1	968.000000	968.000000	223.38
t2 v t3	1	98.000000	98.000000	22.62

Contrast	Pr > F
b1 v b2	0.0062
b1 v b3	0.0033
b1 v b4	0.0062
b2 v b3	0.0001
b2 v b4	0.0002
b3 v b4	0.5778
t1 v t2	<.0001
t1 v t3	<.0001
t2 v t3	0.0031

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



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