```
Data flowers;
  input Block Trmt Prop_flower Count_flower;
  Datalines;
1     1     0.01  191
2     1     0.02  285
3     1     0.01  93
4     1     0.01  357
5     1     0.04  160
6     1     0.01  521
7     1     0.01  263
8     1     0.01  159
9     1     0.01  156
10    1     0.01  114
11    1     0.01  128
12    1     0.01  324
1     2     0.10  39
2     2     0.25  83
3     2     0.16  42
4     2     0.10  10
5     2     0.16  36
6     2     0.11  12
7     2     0.03  44
8     2     0.17  52
9     2     0.11  25
10    2     0.18  18
11    2     0.20  54
12    2     0.16  89
1     3     0.15  24
2     3     0.25  48
3     3     0.15  25
4     3     0.83  41
5     3     0.85  100
6     3     0.91  118
7     3     0.98  67
8     3     0.92  93
9     3     0.83  4
10    3     0.94  38
11    3     0.89  16
12    3     0.99  19
1     4     0.01  1
2     4     0.02  5
3     4     0.01  8
4     4     0.01  4
5     4     0.04  9
6     4     0.01  5
7     4     0.01  3
8     4     0.01  1
9     4     0.01  5
10    4     0.01  9
11    4     0.01  7
12    4     0.01  8
;
Run;

Proc glimmix data=flowers plots=studentpanel;
  class block trmt;
  model count_flower = trmt; */ dist=poisson link=log;
```

```
*  model prop_flower = trmt; */ dist=beta link=logit;
  random block;
  output out=second predicted=pred residual=resid residual(noblup)=mresid
student=studentresid student(noblup)=smresid;
Run;

/*  Linearity of fixed effects - both as a scatter and a boxplot */
Proc sgplot data=second;
  scatter y=smresid x=trmt;
  refline 0;
Run;

Proc sgplot data=second;
  vbox smresid / group=trmt datalabel;
Run;

/* Homogeneity of effects */
Proc sgscatter data=second;
  plot studentresid*(pred trmt block);
Run;

/* Q-Q plot and Shapiro-Wilk for normal distribution */
Proc univariate data=second normal plot;
  var studentresid;
Run;
```