```sas
/* import data */

PROC IMPORT DATAFILE="/home/u63048916/STAT571B/Homework/Homework 3/Q4-40.csv"
    DBMS=CSV
    OUT=mont4_40
    REPLACE;
    GETNAMES=YES;
RUN;

title 'ANOVA - missing data';
proc glm data=mont4_40;
class Car Additive;
model Mileage = Additive Car;
lsmeans Additive / alpha=0.05 adjust=tukey;
output out=diag r=res p=pred;
run;

/* check normality */
proc univariate data=diag normal;
var res;
qqplot res / normal (mu=est sigma=est);
Run;

/* check outliers */
data outlier;
set diag;
stdres=res/0.954257;
run;

proc print data=outlier;
run;

/* check constant variance using graph*/
title 'residual plot: res vs predicted value ';
proc sgplot data=diag;
scatter x=pred y=res;
refline 0;
run;

title 'residual plot: res vs Additive ';
proc sgplot data=diag;
scatter x=Additive y=res;
refline 0;
run;

title 'residual plot: res vs Car ';
proc sgplot data=diag;
scatter x=Car y=res;
refline 0;
run;

title 'Post ANOVA';
proc glm data=mont4_40;
class Car Additive;
model Mileage = Additive Car;
lsmeans Additive / tdiff pdiff alpha=0.05 adjust=bon;
lsmeans Additive / pdiff alpha=0.05 adjust=tukey;
output out=diag r=res p=pred;
run;
```

sis of these data given from Problem 4.19.

4.40. An engineer is studying the mileage performance characteristics of five types of gasoline additives. In the road test he wishes to use cars as blocks; however, because of a time constraint, he must use an incomplete block design. He runs the balanced design with the five blocks that follow. Analyze the data from this experiment (use $\alpha = 0.05$) and draw conclusions.

	Car				
Additive	**1**	**2**	**3**	**4**	**5**
1		17	14	13	12
2	14	14		13	10
3	12		13	12	9
4	13	11	11	12	
5	11	12	10		8