```
PROC IMPORT DATAFILE="C:\Users\nasir\OneDrive\Desktop\Experimental Design\Project dataset.xlsx"
          OUT=Insurance
          DBMS=XLSX
          REPLACE;
RUN;

PROC PRINT DATA=Insurance;
RUN;
* ANOVA F Tests - Completely Randomized Analysis of Covariance (CRAC) -
number of children (Factor) - bmi(Covariate);
*;
Title "ANOVA F Tests - Completely Randomized Analysis of Covariance (CRAC) -
number of children (Factor) - bmi(Covariate)";
*;
*;
*;
Data Insurance;
 Set Insurance;
A = __of_children;
Y = Insurance_charges;
X = bmi;
Label A = '__of_children'
 Y = 'Insurance_charges'
 X = 'bmi';
 run;
 PROC PRINT DATA=Insurance;
RUN;
 Proc GLM Data = Insurance; /* Performs an ANOVA for Insurance data */
 Class A;
Model Y = A;
Run;
*;
Proc GLM Data = Insurance; /* Performs a Simple Linear Regression of Y on X */
Model Y = X;
Proc Sort Data = Insurance;
By A;
Proc GLM Data = Insurance; /* Performs a Simple Linear Regression of Y on X
within each Level of A */
Model Y = X;
By A;
run;
*;
Proc GLM Data = Insurance; /* Tests the Homogeneity of the Regression Slopes
*/
 Class A;
Model Y = A X A*X;
run;
*;

Proc GLM Data = Insurance; /* Performs an ANCOVA for the Insurance data */
Class A;
Model Y = A X;
Means A;
LSMeans A / StdErr PDiff Adjust = Tukey;
run;
*;
```