**SAS CODE**

**PROC** **IMPORT** DATAFILE="C:\Users\nasir\OneDrive\Desktop\Experimental Design\Project dataset.xlsx"

OUT=project\_dataset

DBMS=XLSX

REPLACE;

**PROC** **PRINT** DATA=project\_dataset;

**RUN**;

\* ANOVA F Tests - Completely Randomized Analysis of Covariance (CRAC) -

region (Factor) - bmi(Covariate);

\*;

Title "ANOVA F Tests - Completely Randomized Analysis of Covariance (CRAC) -

region (Factor) - bmi(Covariate)";

\*;

**Data** project\_dataset;

Set project\_dataset;

A = region;

Y = Insurance\_charges;

X = bmi;

Label A = "region"

Y = 'Insurance\_charges'

X = 'bmi';

\*;

**Proc** **GLM** Data = project\_dataset; /\* Performs an ANOVA for the project\_dataset data \*/

Class A;

Model Y = A;

\*;

**Proc** **GLM** Data = project\_dataset; /\* Performs a Simple Linear Regression of Y on X \*/

Model Y = X;

**Proc** **Sort** Data = project\_dataset;

By A;

**Proc** **GLM** Data = project\_dataset; /\* Performs a Simple Linear Regression of Y on X

within each Level of A \*/

Model Y = X;

By A;

\*;

**Proc** **GLM** Data = project\_dataset; /\* Tests the Homogeneity of the Regression Slopes

\*/

Class A;

Model Y = A X A\*X;

\*;

**Proc** **GLM** Data = project\_data; /\* Performs an ANCOVA for the Insurance data \*/

Class A;

Model Y = A X;

Means A;

LSMeans A / StdErr PDiff Adjust = Tukey;