**50\_Startups**

**Inferences:**

**Analysis of Simple Linear Regression:**

* The low R-squared value (-0.112) indicates the model is not capturing the
* relationship between marketing spend and profit effectively.
* Predictions are made, but the differences between actual and predicted values shows that the model may need improvement, by including more features (independent variables).
* The intercept suggests a baseline profit when marketing spend is 0.
* The model is functional but doesn't have high predictive accuracy.
* The R2 score is -0.112 indicates, the model doesn't fit the data accurately.

**Analysis of Multiple Linear Regression:**

* The dataset consists of 50 instances and 4 features. After splitting, the
* training set has 40 instances, and the test set has 10 instances.
* The Multiple Linear Regression model has an R-squared value of 0.9001, indicating a strong fit to the data and mean squared error of 80929465.49.
* The intercept of the model is approximately 54080.72.
* The model makes predictions on the test set, with values close to the actual "Profit" values.