**INTERPRETATION OF R REGRESSION RESULTS**

**CASE 1: MURDER ON ASSAULT**

* The Residual Standard Error is 2.629; means that actual murder in each state deviate from the true regression line by approximately 2.629 units, on average.
* R-squared is the measure of model’s quality. The bigger, the better the model is. In this case, the model explains 0.6356(64%) of the variance of y, and the remaining 0.3644(36%) is unexplained.
* The F statistic tells us whether the model is significant or not. The model is significant if any of the coefficients are nonzero (

The model for this case is significant.

* The Regression of Murder on Assault gave a p-value of; which is less than 0.05 level of significance. We hereby reject the null hypothesis and conclude that the model is likely significant.
* So there’s a relationship.

**CASE 2: MURDER ON URBANPOP**

* The residual standard error is 4.39; which means that an actual murder in each state deviate from the true regression line by approximately 4.39 units, on average.
* The R-square for this model is negative, which implies a very poor fit to the model, because the explanation towards response is very very low or negligible. So, it means insignificance of explanatory variables.
* The p-value for this case is 0.6312; which is greater than our level of significance (0.05).

We hereby fail to reject the null hypothesis, and conclude that the model is likely not significant. So, there’s no relationship.

**CASE 3: MPG ON DISP**

* The Residual Standard Error is 3.251,which implies that an actual murder in each state deviates from the true regression line with approximately 3.251 units, on average.
* The R-square is 0.709; which means that 0.709(71%) of the variance of y is explained and the remaining 0.291(29%) is unexplained.
* F-statistics is nonzero, which indicates significance of the model.
* The P-value is , it is less than the significance level(0.05).

We reject the null hypothesis, and conclude that it is significant .

So, there’s a relationship.

**CASE 4: MPG ON DRAT**

* The Residual Standard Error which have a value of 4.485; means that actual murder in each state deviate from the true regression line by approximately 4.485 units, on average.
* The R-squared is the measure of model’s quality. The bigger, the better the model is. In this case, the model explains 0.4461(45%) of the variance of y, and the remaining 0.5539(55%) is unexplained.
* The F statistic tells us whether the model is significant or not. The model is significant if any of the coefficients are nonzero (

For this case, it is significant.

* The Regression of Murder on Assault gave a p-value of; which is less than 0.05 level of significance. We hereby reject the null hypothesis and conclude that the model is likely significant.
* So there’s a relationship