**Model assumption**

Linear regression makes several key assumptions. First linear regression needs the relationship between the independent and dependent variables to be **linear**. Secondly, we assume the residuals are **normally distributed**. In a regression model, we also assume independent variables are not highly correlated with each other, which means we expect no **Multicollinearity**. This assumption is tested using Variance Inflation Error (VIF), which we would explain in the below. The last assumption is **homoscedasticity**, which states that the residual have equal variance across the values of independent variables. We have to test the model assumption before we draw any conclusion because all the estimates and hypothesis test we used in regression rides on the accuracy of model. If the model assumption is violate, there is a risk of incorrect formulas and calculations leading to an inaccurate conclusion.