**Interpretations**

**Simple Linear Regression Analysis**

**Overview of the Model**: A Simple Linear Regression Model was developed for the 'Life Expectancy' Dataset for the purpose of predicting the life expectancy of a person. In this case, i have determined whether the life expectancy of a person can be predicted when his/her income composition is given.

***Results from the model:***

**(i) R-Square = 0.61**; The R-squared Value suggests that there exists a strong positive correlation between Life Expectancy and Income composition of Resources. It essentially means that 61% of the changes in Life Expectancy is explained by changes in the Income composition of Resources of a person.

**(ii) Intercept(𝛽0) = 48.14**; The intercept value represents the Life Expectancy of a person when his/her Income composition of resources is 0. The model suggests that a person can expect to live up to 48 years when his Income composition level is 0.

**Multiple Linear Regression Analysis**

**Model Overview:** A Multiple Linear Regression is developed to predict Life Expectancy of a person based on Multiple predictor variables. The dataset was pre-processed by converting categorical variables (Country and Status) into numerical format to ensure the compatibility with the regression model.

**Model Parameters**

(i) **Intercept (𝛽0)** = 281.26, The Intercept represents the predicted life expectancy when all independent variables are zero, which is hypothetical in nature.

(ii) **R-Squared value** = 0.8166, The R-Squared Value indicates that the model explains 81.66% of the variability in Life Expectancy. This suggests a strong relationship between the predictor variables and the target variable.

(iii) **Mean Squared Error** = 13.0247, MSE represents the average squared difference between the actual and predicted life expectancy values. A lower MSE value generally is better for the model.