2311100

Life expectancy data

Interpretations of Life Expectancy Data Overview of the Simple Linear Regression Analysis Model: The dependent variable, life expectancy, was predicted using a simple linear regression analysis based on the independent variable, body mass index (BMI). The dataset was split, with 20% of the data points being utilized for testing and the remaining 80% being used to train the model.   
  
Model parameters: a) The estimated profit would be 60.07 units if the BMI was zero, as indicated by the intercept (𝛽0) = 60.07. This value serves as a starting point for the model's projections, even if a BMI of 0 is not feasible.   
b) R-Squared = 0.32, which means that 32% of the variation in life expectancy can be explained by the model. This implies that life expectancy is significantly influenced by other factors.

Analysis of Multiple Linear Regression

Model Overview: Based on a few factors, life expectancy is predicted using multiple linear regression. To make sure the dataset will work with the regression model, the categorical variables (Country and Status) were converted into numerical form.

Model Specifications

a) The estimated life expectancy in the hypothetical situation when all independent variables are zero is represented by the intercept (𝛽0) = 281.26.

b) The model explains 81.66% of the variation in life expectancy, according to the R-Squared value of 0.8166. This implies that the predictors and the target variable have a close relationship.

c) The average squared discrepancy between the actual and anticipated life expectancy data is 13.0247 or Mean Squared Error. Although lower is preferable, how this is interpreted relies on how the Life Expectancy variable is scaled.