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QMBU 450 Homework 2

Hypothesis: Higher GDP per capita implies higher urban population as a percentage of total population: Beta≠0

Null Hypothesis: There is no linear relationship between GDP per capita and urban population ratio: Beta=0

Method: GDP Per Capita and Urban Population data is gathered from World Bank Database. Simple linear regression is applied to the data using least-squared method. Variables are scaled and normalized to retreive better statistical results.
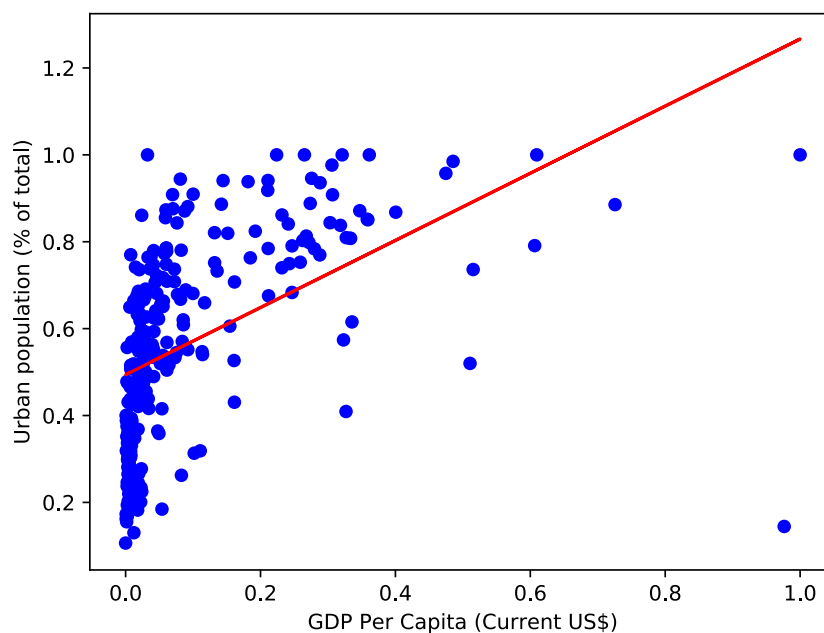
Findings
Regression Model: Y = alpha + beta*X
Regression Statistics:
Alpha value: 0.49402747368074984
Beta value: 0.7727085511629993
Standard error: 0.08347643066147105
95% Confidence interval for beta: [0.609094747066516 − 0.9363223552594826]

Results: Since 95% confidence interval does not contain the value 0, the null hypothesis is rejected. Therefore, it is found that there is a statistically significant linear relationship between GDP Per Capita and Urban Population Ratio.