

### Assignment 3

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hypothesis: House prices with larger number of bedrooms would have higher prices more than the houses with less bedrooms.

Confidence level calculation: choosing the confidence level to be 95%, the sample size will be 21613 which is the sample number of my dataset and from the results of the last assignment, I obtained the sample mean 540088.57 and the standard deviation was 367126.82.

Then I obtained a critical value for the 95% confidence level according to the Z-chart will be 1.96

Then calculating the confidence value according to the rule which is : critical value  $\times \sigma / \sqrt{n}$   
That will be  $1.96 \times 367126.82 / \sqrt{21613}$  that will be equal to 4890.7041

And then calculating the confidence interval will be [539920.55, 540256.61]

And then after calculating the p-value and the correlation coefficient the results will be 0.3083 and p-value will be 0.0 and since that the p-value is less than the typical significance level of 0.05 then the null hypothesis is rejected, which indicates that there is a relation between the number of bedrooms and house prices. Therefore the hypothesis is an alternative hypothesis.