

Evanston Township High School
Comments on Student Project

Average Salaries in the Chicago Area
by Paul Lemon, Marilu Sierre and Enrique Miyasato

by Jiangtao Gou
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Comments

Hello Paul, Marilu and Enrique,

You did a very good job of analysing the average salary in the Chicago Land area. You clearly stated your question, provided the information source, explained how you sampled the data, listed the data in a clear manner and organized your statistical plan. In your report and presentation, you made a stem-and-leaf plot by using software (very good), computed the mean and the standard deviation, got the Z-score. The whole process was stated and presented in a very clear way. In the end, you made your decision based on the statistic which you had got.

Your data (dollar): 95666.66, 77000, 78888.88, 51144.44, 65000, 78333.33, 91555.55, 87777.77, 49333.33, 77111.11.

The data size is 10. The mean is 75181 (You got it exactly correct), and the SD is 14922 (You got it correct as well), so the Z-score is

$$Z = \frac{75181 - 60000}{14922/\sqrt{10}} = +3.22.$$

By using 5% significnat level, we compare 3.22 with 1.645. Note that $3.22 > 1.645$, so we can reject the null hypothesis, and accept the alternative so average salary in the Chicago Land area could be higher than \$ 60,000.

Please note: Because you chose the top 10 companies in the list, you would more likely get the famous ones. This sample may be biased. So when we reached our conclusion, we might be carefully.

Thank you for attending *Data Analysis and Statistics*! Wish you the best of luck in your college experience, academics, and future career.

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