

MATH/STAT 3379 Summer 2017 Final (Total points 100)

Please read the following information carefully.

1. Please type your work. Nicely formatted work with a cover page will always be an asset.
2. Copy the necessary software output and paste it in word file and type your interpretation or findings. Do not print out the data and software code. No points will be given for this.
3. You can use any books, online resources, library or any other resources that are available to you. But do not copy from others!!!
4. You can use any statistical software packages. Probably, the easiest one for this project is SPSS.
5. **Please explain the meaning of the all the results in the context of the data. No points will be awarded for software output only.**
6. Due date: **Thursday, August 03, 2017 (Midnight) by email.**
7. Late submission will not be accepted.

The FBI collects the data through the Uniform Crime Reporting (UCR) program. The data set for this project is the 12 months of complete offence data for 2013 submitted by all city and town law enforcement agencies in Texas. The dataset contains the variables city names, population, number of violent crimes, and Property crime. **Answer the following questions on violent crime only.** If there is no cell information (missing data), then replace it by zero.

- i) Use the information from first part of the project and remove the 10 most influential outliers (10 may be more than 10) and draw box plot and histogram and interpret them.
- ii) Find a 95% confidence interval for the population mean violent Crime and interpret your results.
- iii) Do the data indicate that the populations mean violent crime is different from 200?
- iv) Do the data indicate that the populations mean violent crime is greater than 200?
- v) Remove the 10 most influential outliers and find a 95% confidence interval for the population mean violent Crime and interpret your result.
- vi) Remove the 10 most influential outliers and check if the data indicate that the populations mean violent crime is different from 200?
- vii) Remove the 10 most influential outliers and check if the data indicate that the populations mean violent crime is greater than 200?
- viii) Write the findings of your analysis.

~~~ Good Luck ~~~