

PROBLEM SET - 1 (INTERVAL ESTIMATION)

ECO 204 (Section 6)
Instructor: Shaikh Tanvir Hossain

Due: 11.30 AM, 26th October 2023, submit in Google Classroom

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We will go through some of the problems in the class. You should write the solutions neatly (try to show some steps) and submit it before the deadline. Please submit in a pdf file in Google Classroom. Also submit in groups (max 3 person per group). I will accept both typed or scanned version of your handwritten solutions, but your answer should be understandable. Please ask me in Ed if you have any question.

1. Problems from Chapter 8 (Interval Estimation) of Anderson et al. (2020),
 - (a) From 8.1 Methods # 1, 2, 3, 4 Applications # 5, 9, 10,
 - (b) From 8.2 Methods # 13, 14, Applications # 16, 17, 20, 21
 - (c) From 8.3, Methods # 23
 - (d) From 8.4, Methods # 31, 32, 33, 34 Applications # 35, 37, 38, 40, 43

Remarks: Please solve all the other problems except 8.4, we will solve them later!. Note that all the problems are taken from Anderson et al. (2020). If possible you should do more problems from there. Anderson et al. (2020) called *interval estimates* as *confidence intervals*. So when you are asked to calculate confidence intervals, just calculate the interval estimates for a fixed sample. This terminology is not standard, for example DeGroot and Schervish (2012) and Casella and Berger (2002) use *confidence Interval* as *interval estimators*, which is a random object.

References:

- Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., Cochran, J. J., Fry, M. J. and Ohlmann, J. W. (2020), *Statistics for Business & Economics*, 14th edn, Cengage, Boston, MA.
- Casella, G. and Berger, R. L. (2002), *Statistical Inference*, 2nd edn, Thomson Learning, Australia ; Pacific Grove, CA.
- DeGroot, M. H. and Schervish, M. J. (2012), *Probability and Statistics*, 4th edn, Addison-Wesley, Boston.