

Exercise Instructions

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There are 4 sets of exercises in total and for each one you have 60 minutes to solve. **No one is expected to finish all 5 problems in each exercises session.** Exercise sessions have been designed so there is something for each level of pre-knowledge in statistics and programming. You are free to choose any programming language to solve the problems knowing that the solutions for beginner and intermediate level will be provided in `python`.

There are three levels that you can choose from:

- **Beginner level.** Concepts discussed during lectures are new to you. You don't have many experience plotting histograms or fitting data. You are expected to try solving Problems 1 & 2 in each set of exercises. If you finish before the time is up feel free to move on to the next problem! If you get stuck ask me for help or if I am busy ask colleagues that are at the intermediate or advanced level.
- **Intermediate level.** Concepts discussed during lectures are known to you. If some are new, you feel confident that you understand them. You have some experience plotting histograms and fitting data. You are expected to try to solve Problems 3 & 4 in each set of exercises. If you finish before the time is up feel free to move on to the advanced problem! If you get stuck you can probably find some useful hints reading Problems 1 & 2. If you still feel lost, try solving them before coming back to your problems.
- **Advanced level.** You should have given the lectures instead of me! You are the mastermind of statistics and programming. Go straight to Problems 5 and never look back! I am looking forward to your solutions.

It is encouraged to help yourselves with Google, StackOverflow, and even with ChatGPT! They are your friends and you should offload simpler tasks on them while you are building the bigger picture trying to get to the final solution. Feel free to copy parts of the code from others, the most important thing is that you understand what your code does and what is needed to get to the final solution.

It is also strongly encouraged to discuss the results among yourselves. You will be working in pairs, but please also discuss with other groups. Especially those that are dealing with the same problem as you are. I will be roaming around trying to help as much as I can.

The last 5 minutes of each exercise session are reserved to discuss results. I will show you my results and we will discuss some of the problems or traps you have encountered. Solutions in `python` will be provided after the exercises are finished but I strongly advise you not to look at them until you have tried a bit more to solve them yourselves. I am also happy to discuss the exercises outside of our exercise sessions.

And one more important thing... **Have fun** and I hope you **learn something new and useful!**