

## Problem 1: Whisky bottles price estimation

The file `whisky.txt` contains the outcome of a whisky tasting challenge where three whisky tasters - named `t1`, `t2` and `t3`, respectively - have to evaluate the price of 10 different bottles of whisky, randomly picked in a whisky shop. Each column corresponds to the ten price evaluations of a single taster. Each row corresponds to the three price evaluations of a single bottle.

- a) Do you believe the rows of the data matrix have been independently generated by the same tri-variate Gaussian distribution? Justify your answer.
- b) Do you think that one of the tasters tends to over/under-price the bottles compared to the two others? After having verified any required assumptions, support your answer with a 95% level test.
- c) Provide a plot of the confidence region for the mean vector of the differences in price evaluation between `t1` and each of the two other tasters.
- d) Provide two Bonferroni simultaneous confidence intervals of global level 95% for the mean of the difference in price evaluation between `t1` and each of the two other tasters.

Upload your answers there: <https://forms.office.com/e/9Rz2cgf7zZ>