**Continuous Activity (November 2019) Statistics-I, group AR**

A researcher claims that tests scores in an exam will be higher when the students bring their favorite pen (or another favorite object) to the exam. This researcher also wanted to know whether this effect is modulated by religious beliefs (believers vs. non-believers). To examine this question, she asked the students in a classroom of 127 high-school students (ages 16-17 y.o.), during an exam of mathematics, whether they brought their favorite pen/object (either yes or no) and whether they had religious beliefs (either yes or no). After grading the exams, she examined whether the test score differed for each condition.

**Question 1.**

1. Which are the independent and dependent variables in the study?

b) Is this a between-subjects or a within-subject design? Justify your decision

**Question 2.**

1. What is the number of rows and columns in the SPSS datafile? Justify why.
2. Let’s assume that test scores were higher for the students who brought their favorite pen/object to the exam, regardless of religious beliefs. Can you think of a (reasonable) follow-up study?

We have a database (<https://www.uv.es/mperea/college2.sav>) with information on student grades with different data: music training in music school (yes / no), sex, introversion, aptitude, grade in Mathematics, grade in Science, and grade in Language.

**Question 3.** What’s the z-score (standarised value) corresponding to the individual of the first row in the aptitude test? What does it mean? (Copy/Paste the screen with the info on the z-scores from SPSS.)

**Question 4.** Select only the individuals with at least a score of 6 in Math. Are there any differences between the scores in introversion between men and women? Justify your answer using charts/stats. (Copy/Paste the output from SPSS)