**Statistics-I. Continuous Evaluation (December 2017)**

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We have the database <http://www.uv.es/mperea/RosenbergScale.sav> that is composed of the following variables: A) Score\_P in Rosenberg’s self-esteem questionnaire; B) Score\_S in Rosenberg’s self-esteem questionnaire; C) Age; Gender (man, woman), and D) Smoking (yes, no)

1. In the sample, do men smoke more than women? Or more generally, what is the degree of relationship between Gender (men, women) and Smoking (yes, no)? Justify your answer (Copy/paste the appropriate tables from SPSS)

2. We want to predict IQ using a regression equation with Score\_P, Score\_S, and Age as predictors. A) What is the percentage of IQ that can be explained by the regression equation?; B) Are there any collinearity problems?; and C) What is the IQ predicted for the person in row #1? (Copy/paste the appropriate tables from SPSS)

3. We have been offered to play the following game, in which each time we have to pay 5€. We roll a dice (i.e., a six-sided dice). If there is a “6”, then we receive 15€, if there is a “5”, we receive 12€, and if there is a “4”, we receive 10€. Is it worth playing that game in the long run? Justify your answer.

4. A number of educational psychologists assume that readers whose scores are less than 30 in the McMillan-Binet reading test can be categorized as “individuals with dyslexia”. If we assume that this test is normally distributed (mean = 50; standard deviation = 10), what is approximately the percentage of readers with dyslexia in the population?