**Statistics-I. Continuous Evaluation (December 2022)**

We have the following database <http://www.uv.es/mperea/college3.sav> (you can also use <http://www.uv.es/mperea/college3.jasp>) that is composed of the following variables: A) whether they attended Music School; B) Introversion; C) Aptitude test; D) Marks in Mathematics; E) Marks in Sciences; and F) Whether they play Chess.

(1) In the sample, is there a relationship between Attendance at Music School and Playing Chess? Copy/paste the appropriate tables from SPSS/JASP and indicate the conclusions in a sentence.

(2) We want to predict the variable “Aptitude test” as a function of Introversion, Marks in Mathematics, and Marks in Sciences as predictors. A) What is the percentage of Aptitude that the regression equation can explain?; B) Are there any severe collinearity issues in the equation? (also copy/paste from SPSS/JASP)

(3) We have the following probability density function: f(x)=h from 0<X<10, and f(x)=0 otherwise. The questions are: (a) what is the value of F(4) and what does it mean?; and (b) please indicate an example of real life in which the distribution density function follows a uniform distribution like that of the exercise—you may use the example we talked about in class when discussing a very similar case.

(4) We tossed a coin 20 times. We obtained 15 tails. Is this outcome compatible with the hypothesis that the coin is well balanced? Please use the criterion of the Percentile 95 to make the decision, and justify it in a sentence.



