# Home Exercise 1

Statistical Learning (AMI22T)

[This exercise consists of 20 points. In order to get full points, you have to answer all the questions, below. Your answer must be clearly written, well structured, and easy to follow. Your methods and models should be appropriately motivated. A cover page to your solution should make clear of your identifier, e.g. name, e-mail etc. The length of your solution should not exceed 12 pages, Times New Roman fonts with font size 12 and single line space. Upload your solution on Learn by May 04, 2020; 09:00 CET. For any further questions, do not hesitate to contact Moudud Alam, e-mail:maa@du.se]

The ANES2016 data set (on Learn) is an excerpt from a survey data collected during the 2016 US prudential election campaign. A data description is also available on Learn. Notice that some categorical variables (including missing values) are numerically coded. With this data set, answer the following questions.

1. Recode the variable Trump as follows. Denote Slightly liberal to Extremely liberal (levels 1-3) as "Liberal", and Moderate to Extremely conservative (levels 4-7) as "Conservative". Is there any personal characteristics of the individuals that determines whether someone would consider Donald Trump as Liberal (or conservative)? Motivate your methods and interpret your results.
2. Build a suitable prediction model to predict an individual's party identification using the respective individual's other personal, and family characteristics. Experiment with different methods, and model specifications, and motivate your choice.