

Assignment IV– Individual Take Home Assignment

ST 3011: Statistical Programming

Due date: February 23, 2020

Execute the following model fitting procedure **using Python** and prepare a brief report based on the findings. Please note that the number of pages **should not exceed 5**. The zipped folder consisting with the final report in pdf format together with all the codes used need to be sent to nadeeka@stat.cmb.ac.lk **on or before midnight February 23, 2020**.

The dataset provided consists of student achievement in secondary education of a foreign school. The data attributes include student grades, demographic, social and school related features and those were collected by using school reports and questionnaires. Given below are the attribute information.

Attribute Information:

1. age - student's age (numeric: from 15 to 22)
2. absences - number of school absences (numeric: from 0 to 93)
these grades are related with the course subject, Math:
3. G1 - first period grade (numeric: from 0 to 20)
4. G2 - second period grade (numeric: from 0 to 20)
5. G3 - final grade (numeric: from 0 to 20)

Response variable: G3

Fit an ANN regression model and a multiple linear regression model to predict the final grade. You may use the default values for the parameters of the ANN model. Compare the performance of the two approaches using an appropriate mechanism.
