Lab Assignment- 1

IML Lab
AY 2021-22

August 18, 2021

Submission Deadline: August 23, 2021 11:59 PM

Q1: A csv file has been provided to you at this link. The given dataset is related to cars and contains 26 columns.In the given dataset, “Price” is the target variable (i.e., the output).

The marks distribution according to the tasks are as follows:

i) Assign a type to each of the following features (a) Model, (b)Type, (c) Max. Price and (d)Airbags from the following: ordinal/nominal/ratio/interval scale. (2 Marks)
ii) Write a function to handle the missing values in the dataset (e.g., any NA, NaN values). (2 Marks)
iii) Write a function to reduce noise (any error in the feature) in individual attributes (2 marks)
iv) Write a function to encode all the categorical features in the dataset according to the type of variable jointly. (5 Marks)
v) Write a function to normalize / scale the features either individually or jointly. (2 Marks)
vi) Write a function to create a random split of the data into train, validation and test sets in the ratio of [70:20:10]. (3 Marks)

Q2. Using the webcam in your laptop/computer, read and save a photograph of yourself using any one of the following libraries: OpenCV/Python Pillow /Scikit Image. [4 marks]

Instructions:
(1) Prepare one code (Python file) containing all the functions of Q1, and another code for Q2 named Q1.py and Q2.py.
(2) Put both the codes in a folder named <Lab1_YourRollNo>, create a zip file and upload in google-classroom.
(3) Any submission received in another format or after the deadline will not be evaluated.