1. From L1=['abc', 123, [456, 'd', 'e', 'f', [7, 8, 9],['g','h','i']], 10, 'j', 'k'], create L2=[['abc', 456, 7], 'def', [8, 9], 'g', 'h', [10, 'j', 'k']] using indexation.

2. Using the next dataset https://gist.githubusercontent.com/tijptjik/9408623/raw/b237fa5848349a14a14e5d4107dc7897c21951f5/wine.csv calculate for each column:

   - Mean
   - STD
   - Range
   - Median

   Also, create two datasets with the next information:

   - D1= First and fourth column
   - D2= First two and lasts two columns-

   Finally, print every column with upper values to the mean plus two std and lower values to the mean minus two std.

3. Create a NumPy array of size 100x5 with random numbers from [1 to 100]. Converts this matrix in a dataframe with each column with the names ['f1', 'f2', 'f3', 'f4', label']. In the label column, change each number with the corresponding index in the English alphabet. For example, the number 25 is the letter “y”. If the number is greater than 26 repeat the count; e.g., 33 would be “g”. Finally, create a new column, where you will use your acronym name as a column name and this column will be the sum of the four first columns.

4. Create a GUI for acquiring the next data from the user:
   a. Personal ID
   b. Name
   c. Surname
   d. Email
   e. Degree program
   f. Semester

   Also, it should create an Excel file for storing the data.

5. Based on the next figure (UML class diagram), build the following program:

Class Car

Attributes: Create the corresponding attributes. Set the State to “True” and the MaxSpeed to 100 as default values.

Constructor: Create the constructor that receives the Brand and the two speeds (Speed and MaxSpeed) and assigns them to the corresponding attribute.

Gets: Create the 3 corresponding “gets” methods.

Sets: Create the methods to ignite, which internally sets the car's state to “True”. Create the shutdown method, which internally sets the car's State to “False”, and when you turn it off, sets the car's speed to 0. Also, create the method Speed_down, which first checks that the car is on (if it is not on, it does nothing). And then it subtracts the value received from the current speed of the vehicle. Note: Verify that the speed does not go negative, if it goes negative, replace the speed with 0. Finally, create the method Speed_up, which first checks that the car is on (if it is not on, it does nothing). And then it adds the value received to the current speed of the vehicle. Note: Check that the speed is not over the maximum speed, if it is over, replace the speed with the maximum speed.

Main Class

Create two objects: (i) Car(“Tesla”), (ii) Car(“Mazda”,false).

• Increase the speed of the Tesla car by 10. Increase the speed of the Mazda car by 40.

• Print the speed of the cars.

• Start the Mazda. Increase the speed of the Mazda car by 40.

• Create a while loop that loops 3 times. Within the cycle, decrease the speed of each cart by 5 units for each iteration.

• Print the speed of the cars.