

## Exercise - part 1

### Exploration:

- 1) Load the data, and present the 10 top records.
  - a) From what manifestations did the first patient suffer from?  
Is he deceased?
  - b) What are the maximal and minimal values of Systolic blood pressure in the previous 10 patients?
- 2) How much patients from the cohort passed out? What is their relative size? Are there any missing dead values? Explain.
- 3) How many missing values are found in the second follow-up columns. Are they randomly absent? Explain.
- 4) How many missing values are found in the first follow-up columns
- 5) create a parameter that describes how many Cardio-Vascular events the patient suffered from. (Hint: there is an easier way than using a boolean command)

### Visualization:

- 1) How many patients suffered from each of the described events?  
Plot a bar plot which present the number of patients suffering from each event. (Try to train on editing the plot)
- 2) Per event, per patients that suffered from the manifestation,  
Present on a graph the distribution of time until event,  
Via the following types of graphs: Boxplot, violin, histogram, joy plot.

How does each type graph contributes to your intuition about the behavior of the data?

- 3) Draw a percentile graph for the patients BMI

## Small Integration:

- 1) Extract from the data rows with no missing values at all
- 2) Is the distribution of Systolic blood pressure and Diastolic blood pressure similar to that of the whole data?
- 3) Test the fitting between diastolic and systolic blood pressure in the extracted dataframe. Is it similar to that of the whole data?  
Use visualisation methods.