## Lab 12

12.1 Write a macro that divides any given data set into sets that have at most $n$ observations.

12.2 Write a macro with two parameters *id* and *sets* that finds for a given *id* the most current value of the variable $x$ in the data sets *sets*. (The parameter *sets* may contain any number of set names separated by spaces.) If the given *id* does not exist in the given *sets*, the macro should generate an appropriate message in the Log window. (For testing purposes one can use the sets **a0236** – **a0962**.)

12.3 Write a macro that for a given data set and a given numerical variable from the set will create a new format. For example, if in the set there exists the numerical variable $x$ with the values $\{0.1, 3, 100\}$, then the created format should display numbers from the interval $(-\infty, 0.1)$ as ,,I", numbers from $(0.1, 3]$ as ,,II", numbers from $(3, 100]$ as ,,III" and numbers from $(100, +\infty)$ as ,,IV".

12.4 Write a macro that removes from any given data set all the numerical variables that have at least one missing value.

12.5 Write a macro *%division(set,var)* that divides a given data set *zbior* into as many sets as there are distinct values of the variable *var*. The $i$th output set should be named **z**$i$ and it should contain only such observations from *set* for which *var* takes the $i$th of its values.

12.6 Write a macro that for given: a data set, a numerical variable and a number $n$, counts the value of the empirical distribution of the variable at the points $x_1, \ldots, x_n$, where $x_1$ and $x_n$ are the smallest and the largest values of the variable in the set. The distances between the consecutive points $x_i$ and $x_{i+1}$ should be equal for all $i$.

12.7 Assume that a data set **z** with the text variable *set* and the numerical variable *var* is given; every observation from **z** contains the name of variable (*var*) that should be removed from the set *set*. Write a macro that reads the set **z** and the sets listed in **z**, removes the relevant variables from the listed sets and puts them, side by side, into a single new data set.

12.8 Write a macro that, for a given data set *set* and a given integer $k$, will create the set of all $k$-element combinations of elements of *set*.