Laboratory Work N 1
of "Methods of Statistic Data Computer Processing" Course

Aim of the work:

1. To learn skills of work with R.
2. To determine sample characteristics.

Task:

1. Prepare data
   a. Create a .csv file for 50 values of one variable.
   b. Load data to R.

2. Draw graphs

   Create the following graphs:

   a. Line plot

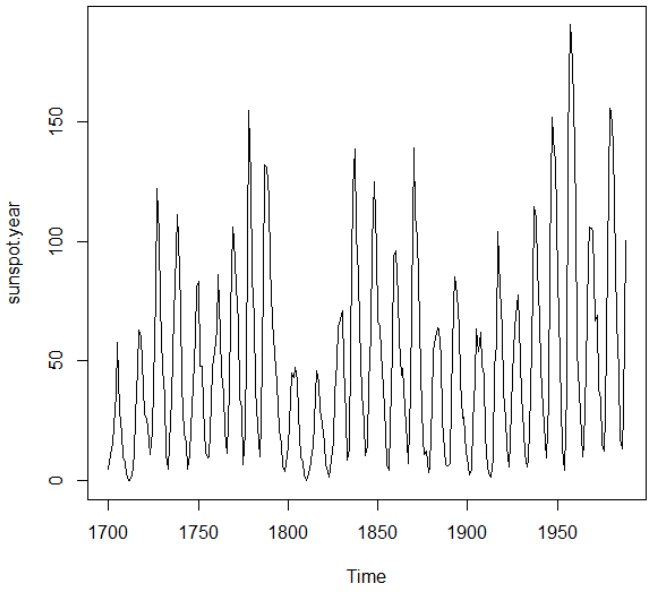

Figure 1 Line Plot Example

   b. Histogram

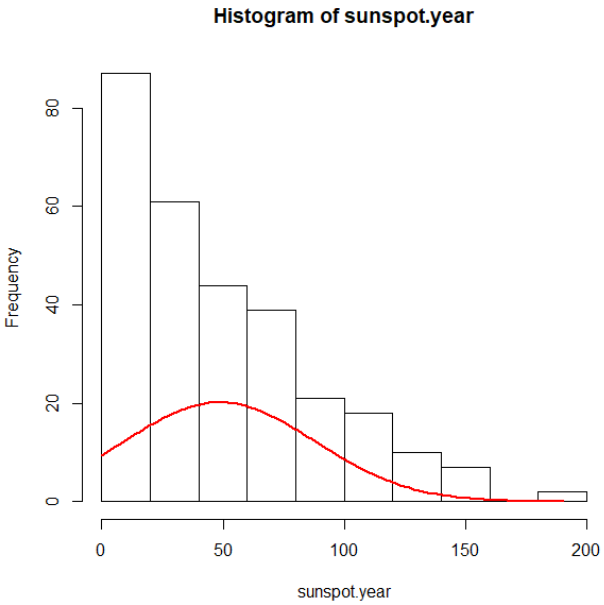

Figure 2 Histogram Example

c. Empirical distribution function chart (cumulative histogram)

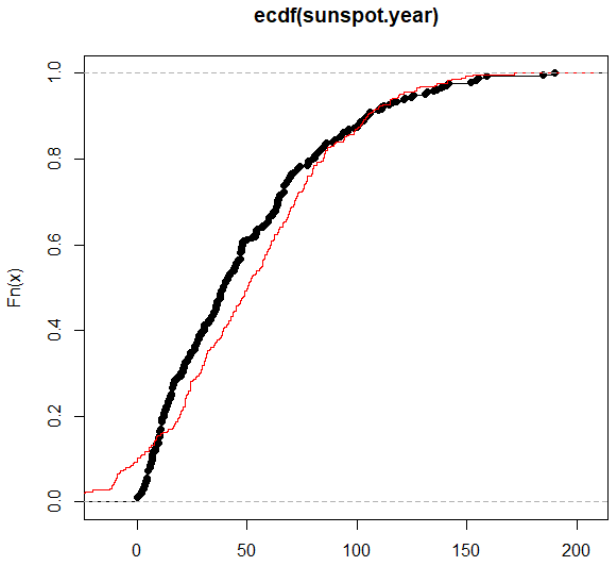

Figure 3 Cumulative Histogram Example

3. Descriptive statistics

Calculate descriptive statistics for the data. Descriptive statistics should include

- maximum and minimum values,
- average,
- standard deviation and variance,
- skewness and kurtosis
- standard errors of skewness and kurtosis,

- 90%, 95% and 99% confidence limits for mean.

4. Quantile calculation

Find the value of the distribution function for a given random variable and find the value of the quantile of the probability distribution for a given level of significance.