

## ABSTRACT

The thesis is presented in 52 pages. It contains 2 applications and bibliography of 13 references. 17 figures and 2 tables are given in the thesis.

The purpose of this thesis is to create mathematical and software solutions to the problem of assessing the differences between two samples in biology. First, the hypothesis  $H_0$  is put to this: the two samples considered are not different, that is, none of them has a factor influencing their significance. When accepting the hypothesis it is concluded that the samples are irrelevant to each other. And in rejecting the hypothesis, it is concluded that the samples are different from each other.

The paper reviews the existing methods and criteria for solving the problem of assessing the differences between two samples. Also, a qualitative analysis of existing systems capable of solving this problem was conducted. In the end, the methods and criteria for solving this task were chosen. The problem area for this task was chosen biology, because in this field of science, the assessment of the differences in samples is very relevant, especially from a software point of view

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Key words: normality criteria, homogeneity criteria, variation series, sampling, statistics, factors of influence, difference.