

ABSTRACT

Actuality: At the moment, the Japanese language is becoming increasingly popular in the world. Many people study it to study in Japan, emigrate and get a job, to establish business relationships with Japanese companies, or simply to communicate with native speakers or watch Japanese animation or read books in Japanese. Simultaneously with the growing popularity of the language, there is a lack of such mathematical and software for analyzing texts in the Japanese language.

The aim of research: the main goal is to research and develop mathematical software and software architecture for text analysis in Japanese.

The object of research: the process of syntactic and semantic analysis of the text in Japanese

To achieve this goal, the following **tasks** are formulated:

- find and analyze existing solutions and choose algorithms for further implementation;
- develop and substantiate mathematical software for analysis;
- development of software architecture, libraries necessary for its work;
- develop software, its description and instructions for it.

Research subject: methods and algorithms for analyzing Japanese text, a combination of different methods to improve analysis.

Research originality: The most significant scientific results of the master's thesis are:

- for the first time created rules for text analysis in Japanese, aimed at simplifying the writing of the text with a certain level of politeness;
- an architectural solution for a highly loaded text analysis system is proposed.

Practical meaning: The developed mathematical and software can be used as simply as possible to analyze the text in Japanese, namely to check it according

to selected rules, to determine the data about the characters used in it, the essence and words that can be written in hieroglyphs.

KEYWORDS: TEXT ANALYSIS, NLP, JAPANESE LANGUAGE, 日本語