The thesis is presented in 53 pages. It contains 2 appendixes and bibliography of 24 references. 19 figures and 3 tables are given in the thesis.

The aim of this thesis is to find the optimal packing of different types of objects (spheres, parallelepipeds) using the modified linearization method.

The paper concerns the development of an application software package for solving the placement problem: in particular, packing of spheres into a sphere of minimum radius, packing of spheres into a container with a minimum sum of edges, and packing of parallelepipeds into a container of a given size. The practical results of this paper can be used in both logistics and scientific investigations. This graduation thesis provides a convenient instrument for graphical interpretation of the placement of various objects in the 2-dimentional and 3-dimentional spaces.

During the execution of the thesis was an analysis and comparison of existing methods and solutions for packing and placing objects. Revealed that there is still no optimal programs for the implementation of this task fully. In addition, it was also analyzed and created a comparative table of packing methods and selected the best method to solve this problem.

Main ideas of the thesis were published in the Proceedings of the 9th Conference of young scientists “Applied Mathematics and Computing” and in the Proceedings of the International Scientific Conference – 2017 named after Taran T.A.

Keywords: packing objects, linearization method, polynomial algorithm, genetic algorithm, quadratic programming.