

ABSTRACT

for coursework, student Sobotovich Yaroslav, group XA-51
on discipline "Numerical methods"
on the topic of "*Approximation of a tabulated function using a set of known empirical relationships*"

In the course work, the task is analyzed and the means necessary for its implementation are determined, the proposed numerical method is studied and studied on test examples. The developed algorithm for solving the problem was implemented as a software product in Visual Studio 2015 (C ++, Win32 Console Application) environment. The created software product has a dialog interface that allows the user to select a convenient way of inputting and outputting data, choosing the type of the approximating function. All variants of approximating functions calculated for this dependence, their mean-square errors are also displayed on the MS Excel sheet. Test examples are given.

Also, problems of approximation of functions were considered: the search for approximating functions as empirical (including using the developed program), and polynomial and spline interpolation. The obtained results showed a fairly good approximation to the experimental values.