ABSTRACT

for coursework, student Ustinov Maxim, group XA-51 on discipline "Numerical methods" on the topic of "*Spline interpolation of a table-defined function*"

The task was analyzed and required tools were defined for method implementation, the method of least squares was studied and the approximation of a table-defined function with a polynomial of orders 1, 2 and 3 was explored in this coursework.

To solve problem defined in the condition the program has been developed using Microsoft Visual Studio 2013 (C++/CLI, CLR) with graphic user interface Windows Forms. The program was tested with the test example. The results were analyzed and summed up.

In the second part of the coursework typical problems of function approximation were solved with defining a type of empirical equation and calculating coefficients of approximating polynomial, also the problem of the spline interpolation was solved. The result analysis shows that all functions constitute the characteristic of the experimental data correctly.