

Course «C Programming Language»

Meeting №23

Topic: Functions. Function overloading

Homework

Exercise 1.

Write overloaded function (int, double, char) to implement the following tasks:

- initialization of square matrix;
- output matrix to the screen;
- determination of maximum and minimum elements on the main diagonal of matrix;
- sort elements in ascending separately for each string of matrix.

Exercise 2.

Write overloaded functions and test them in a main program:

- find maximum value in one-dimensional array;
- find maximum value in two-dimensional array;
- find maximum value in three-dimensional array;
- find maximum value of two integers;
- find maximum value of three integers.

Exercise 3.

Modify programs from the first and second exercises using templates.

Course «C Programming Language»

Topic: Sorting arrays

Homework

Exercise 1.

Write a program that implements a sorting of one-dimensional array of integers by bubble sort.

Exercise 2.

Write a program that implements a sorting of one-dimensional array of integers by insert method.

Exercise 3.

Write a program "Progress in studies". The user enters 10 marks of student. Implement a menu for the user

- output marks (output a content of the array);
- retake exam (user enters an array element number and a new mark);
- whether there is a scholarship (there is a scholarship, if the average mark is not less than 10.7).

Exercise 4.

It is necessary to sort the first two thirds of the array in ascending order if the arithmetic mean of all elements is greater than zero; otherwise we sort only the first third. We don't sort a rest of the array, but arrange it in reverse order.