

Lab 6.6.11.3 Function parameters: part 3

Objectives

Familiarize the student with:

- Functions
- Function calls with parameters
- Calling functions with parameters
- Function return values
- Printing on screen

Scenario

Write a function that checks which of two given matrices is greater. To simplify the function parameter list, you can assume that both matrices are equal in size and are square. This function should return:

- 1 if the first matrix is greater than the second;
- -1 if the first matrix is smaller than the second;
- 0 if both matrices are equal - this means they have exactly the same values.

For this task, we assume that a matrix is smaller than another matrix when the first element which is different is smaller in that matrix. We analyze matrices from left to right and from top to bottom. Separate the declaration of the function from its full definition. Write a second function that calls the first one and then prints an appropriate message: "matrixA is smaller than matrixB", "matrixA is greater than matrixB" or "Both matrices are equal". Write a code to test it with some values - create three matrices, fill them with values and compare them in all possible (six) cases. Call a second function. As always, do not limit yourself only to the cases already given. Note: you can use a single pointer to *int* type to pass the array.

```
#include <stdio.h>

/* your code */

int main()
{
    /* your code */
    return 0;
}

/* your code */
```

Example output

```
Both matrices are equal.
matrixA is smaller than matrixB
matrixA is greater than matrixB
Both matrices are equal.
matrixA is smaller than matrixB
matrixA is greater than matrixB
```