

**Prerequisites:**

- Basic knowledge of using computer and text editor
- Knowledge how to create a program
- Knowledge how to create a function
- Knowledge of different types
- Knowledge about conditional statements
- Knowledge about loops
- Knowledge how to work with files
- Knowledge how to create a pointer
- Knowledge how to create a list

**Aims:**

In this laboratory student will learn how to:

- Use in practice issues already known from previous laboratories.

## 1 Exercises

1. Create a special struct which allows to collect strings (names) given by the user (in the terminal). It will be used to remember these names as well as pointers to the next and to the previous element – it allows to create a list of names.
2. Ask user to give the first name and put it to the list (right now there should be only one element in this list). Display it in the terminal.
3. Ask user to give the second element and put it to the list, however, all elements in this list should be in alphabetical order (*Tips: use ASCII representation of characters*). Display this list in the terminal and separate each element by symbol "->".
4. Repeat task 3 21 times.
5. Extend right now your program by adding the index number for each name (element of the list). How it could be done?
6. Give a random value of index number for each person in your list. This number should have exactly 5 digits.
7. Add an option (question to the user) to sort all elements by the index number or by the name. Display result in the terminal.
8. Add right now also surname of each person similarly as is was done in task 6.
9. Add also possibility to sort all elements of this list by the surname (repeat task 7).