# **Practical work No.2 Arrays and Links**

To perform tasks of the previous practical work, we developed a Task class of objects. Practical work No. 2 deals with the development of a list of tasks that allows you to simultaneously work with several tasks. Tasks in the list can be repeated, the order of the tasks does not matter, but it should not change unless the tasks are added to or removed from the list.

## Task 1. Creating a list based on an array

Create an ArrayTaskList class in the ua.sumdu.j2se.studentName.tasks package (replace studentName with your name) using the following public methods:

* void add (Task task) is a method that adds the specified task to the list.
* boolean remove (Task task)is a method that removes a task from the list and returns true, if such a task was in the list. If the list contains several tasks of the same type, any of them should be removed.
* int size() is a method that returns several tasks from the list.
* Task getTask(int index) is a method that returns a task which takes the specified place in the list; the index of the first task is 0.

Tasks in the list should be stored using an array. The list can contain any number of tasks that can be in the array, but should not occupy much more space than it is required at any particular moment. This means that, for example, if the list contains 5 tasks, then the array for their storage should not occupy space for 100 tasks.

## Task 2. Selection of tasks

Besides, the application should know which tasks from the list are scheduled at least once in a certain interval, for example, which tasks are scheduled for the next week. To implement this, create the ArrayTaskList incoming(int from, int to) method in the ArrayTaskList class. This method returns a subset of tasks that are scheduled for execution at least once after the "from" time, and not later than the "to" time.

**For example,** the list includes the following tasks:

1. Lunch with a beautiful girl on August 24 at 16:00.
2. Morning run from March 1 to September 1 every day.
3. Taking medication from August 20 to September 28 every 12 hours.
4. Meeting with friends on September 1 at 18:00.

Then, the tasks that take place from August 25, 8:00 to August 26, 8:00 are "*Morning run*" and "*Taking medication*".