

[Publisher] Write a **list** (collection type, it can inherit from ArrayList), which informs about all the changes inside it: it sends information which elements were changed (the list [ArrayList] of changed elements) as well as date and time when the change happened. You should overload methods: `int Add(object value)`, `void Clear()`, and indexer `object this[int index]`.

[Subscriber 1] Write **ListListenerDisplayChanges** class, which listens, if a list changed in any way. If a change happened, you should print in the terminal all relevant information, as shown below:

```
This is called when the event fires.
Event fired at 12h 0min 38sec
Changed elements are:
item 1,
item 2,
item 3,
-----
```

Class should also allow to resign from listening given list (write appropriate method), as well as implement method `void GetTimes(...)` – which takes `DateTime` object and returns 3 integer values. The returned values are the ones that should be printed on the screen.

[Subscriber 2] Write **ListListenerSaveToFile** class which listens, if a list changed in any way. If a change happens, you should write changes to the file, which name is given as the constructor parameter.

[Testing Console Application] Write a **program** which tests created classes. Inside program you should:

- create a list and an object, which will listen to lists changes and print information on the screen
- create object which will save all changes to „list.txt” file
- add 3 elements to the list, one after another (any elements you wish)
- modify second element using indexer
- pause program for a second: `Thread.Sleep(1000);`
- delete all the elements from the list
- resign from listening to the changes
- add new element (any you wish)

Example output of the program:

```
This is called when the event fires.
Event fired at 12h 8min 11sec
Changed elements are:
item 1,
-----

This is called when the event fires.
Event fired at 12h 8min 11sec
Changed elements are:
item 2,
-----

This is called when the event fires.
Event fired at 12h 8min 11sec
Changed elements are:
item 3,
-----

This is called when the event fires.
Event fired at 12h 8min 11sec
Changed elements are:
item 2,
item 0,
-----

This is called when the event fires.
Event fired at 12h 8min 12sec
Changed elements are:
item 1,
item 0,
item 3,
-----
```