

Lab Session 3: Leader Election
May/05/2020 – Due: May/19/2020

Exercise (leader election):

- Extend the code from Lab 2 to implement the Echo algorithm with extinction for leader election. Each process will read the IPs and ports of the neighbours from a configuration file stored in the same directory where the program is located. The name of this file will be passed as a [command-line argument](#) to the program. Each line in the configuration file will have the following format:

`<IP address>:<Port number>`

except for the first line that will have the default local IP, a port, the ID (a positive integer) assigned to the process, and an optional mark (*) indicating that the process is an initiator. An example of an input file is:

```
127.0.0.1:6002:3:*
10.80.29.90:6001
127.0.0.1:6001
```

The first line has the IP (always the local IP) and port where the process will accept TCP connections, its ID and it also indicates that this process is an initiator. Non-initiators files will not have the ":" and the "*" at the end of the first line. The leader will be the process with the largest ID. We will assume all the process IDs are different. You will find sample configuration files in the directory "Lab1/" located in the same Google drive of the sample code.

The process that is elected leader must print a message in the terminal indicating it is the leader and its ID.

Submitting your work for evaluation:

Create a zip file with all the relevant files needed to compile and run the exercise(s) together with a Readme.txt file. The main package of the leader election algorithm must be named **election.go**. The Readme.txt file must include 1) the names of the team members, 2) a clear explanation of how to compile the program(s) (in case you decide to split your code into several packages), and 3) any information needed in order to test your programs. The evaluation will consider how easy is to use and test your programs as well as good programming practices such code documentation and organization.

Please name your zip file lab2_<name>_<last name>.zip and e-mail it to me (jorge.lobo@upf.edu) no later than **May/19/2020 at 16:30** to receive full credit. If you are working in a team submit only one zip file.