HOW TO USE THE DEPARTMENTAL CLUSTER

I. THE CLUSTER

You are going to be using the department's cluster for the purposes of your graduate course. It is a 12-node cluster (plus a master login node) with a 1 GBit interconnect. Each node is a Dell R430 server, containing 1 Intel Xeon E5-2620v4 CPU and 8GiB of main memory. The CPU has 8 cores each with two hardware threads, but hyperthreaded has been disabled. It runs Ubuntu 18.04.5 LTS (bionic).

II. ACCOUNTS

Your accounts have been set set up; please change your password the first time you use your account as follows:

- Login to the cluster's master node (see below)
- Execute: `yppasswd`

III. HOW TO LOGIN AND COPY FILES

In order to access the cluster you have to login to the cluster's master node:

```
ssh <username>@gatepc73.cse.uoi.gr -p 8822
```

From there you can log into any of the computational nodes of the cluster:

```
ssh <nodename>
```

where nodename is `node01` to `node12`. File transfers through `scp` need the `-P` flag to be given first, e.g.

```
scp -P 8822 file.c <username>@gatepc73.cse.uoi.gr:
```

IV. OPENMP COMPILERS

The GNU (`gcc`) compiler version 7.5.0 is available and supports OpenMP. The option it requires in order to process OpenMP code is:

```
gcc -fopenmp file.c
```

This version of the compilers uses 8 threads by default. Set the corresponding OpenMP environmental variable to what you want, e.g. in your bash shell type:

```
export OMP_NUM_THREADS=4
```

and then run your compiled program.

Happy programming!