# Homework M5: System Startup and Processes Management

For a successful completion of the tasks, it is enough use just one machine. It can be the one, you used during the practice, or a new one. In fact, the better option is to use a new one.

Try to solve the following tasks:

1. Make the following permanent changes in the boot procedure of your system of choice:
   1. Set waiting time to be **1 minute**
   2. Instruct the loader to show **all diagnostic** messages during boot
   3. **Publish** the changes
2. After the boot, save the contents of the kernel **ring** **buffer** in **human** readable format **ordered** from the **latest** to the **earliest** to a file named **boot-extract.txt**
3. Extract the **After** clause of the **sshd.service** unit and save it to **sshd-after.txt** file
4. Using the **pstree** command, create a **tree** of **all** **processes** on your system with their **PIDs** and store it to a file **processes-tree.txt**
5. Using the **df** command, show the free space in GB and save the result in file named **free-space.txt**
6. Check **how much** space are consuming the folders in the **/** but focus only on the **first** level. Extract the data in **human** readable format **ordered** from the **largest** to the **smallest** consumer and save it to file **used-space.txt**
7. Using the **pidstat** command, collect **5 measurements** with a pause of **5 seconds** between two iterations, and store the result in file named **stat-output.txt**
8. Save the list of open files in your **/etc** folder to a file **open-files.txt**. Append the command you used at the end of the **open-files.txt** file
9. Using the **top** command, collect **5 measurements** with a pause of **5 seconds** between two iterations of all running processes on the system and save them to a file **process-monitoring.txt**

*\* Please note that all resulting files should be in the home folder of the user used for the homework solving process*

## Proof

After you are done with the tasks, you can check how well you did them

In a terminal session execute one of the following commands (depending on which executable you have)

* Option 1 (**wget** installed, usually for **Debian**-based distributions)

**wget -q https://courses.zahariev.pro/m5.sh -O - | sudo bash**

* Option 2 (**curl** installed, most of the distributions)

**curl -s https://courses.zahariev.pro/m5.sh | sudo bash**

Repeat the procedure until you get as much **PASS** marks as possible. This may include adjustments on what you did or even start from the beginning

Once, satisfied by what you accomplished, use the homework template document (available in the section for the module – ***Домашно – M5 - Шаблон за решение***) and paste the link you received as a result

Include the commands you used for every step. Also include the output if you like (either as pictures or as text)