# Homework M8: Bash Scripts and Automation

For a successful completion of the tasks, it is enough use just one machine. In our case this could be for example the server (**Jupiter**) or any of the other two (either **Mars** or **Venus**) or why not a new one. As we said multiple times, it is better to start fresh, so create (from template) a new machine.

Let’s assume that the following list of tasks will be performed on **a new** virtual machine:

1. Create a script named **user\_data.sh** that when started will ask the user for (without the a.,b.,c.):
   1. First name
   2. Last name
   3. Place of birth

Then it will append the collected data to a file **/tmp/user\_data.dat**. For example, if the user input is (without the a.,b.,c.):

1. John
2. Smith
3. London

The script will store **John;Smith;London** in the file.

1. Execute the script several times (**3 to 5**) with **different** **answers** each time
2. Create a script named **show\_data.sh** that when started with a parameter **a file name** (the one from the previous exercise) will display the information from it in the following format (without the a.):
   1. Row #n: First;Last;Place where n is the record number

For example (without the a.,b.,c.):

1. Row #1: John;Smith;London
2. Row #2: Jane;Hudson;Manchester
3. …

If executed **without** parameters or with **incorrect** number of parameters to **display** help **message** and **quit**.

1. Create a script named **archiver.sh** that will accept two parameters on the command line (without the a.,b.):
   1. Folder to archive
   2. Name (and path) of the archive

When **executed** with the **two** **parameters** to create a **tar+gz** archive. If executed with **incorrect** **number** of parameters or their **values** are **incorrect** (parameters should follow the rules):

1. First parameter should be always an existing folder
2. Second parameter should be non-existing file

To display **help message** and to **exit**.

1. If you know the following specifics when working with MariaDB:
   1. That you can add data to an existing table in MariaDB with command like:

**mysql -u [user] -p[pass] [db] -e "sql statement"**, for example

**mysql -u root -pPassword1 process\_data -e "INSERT INTO processes (amount) VALUES (35)"**

* 1. When you create a table you can have **default values** for some of the columns:

**CREATE TABLE t1 (tm TIMESTAMP DEFAULT CURRENT\_TIMESTAMP, num INT);**

* 1. When you have default values for some of the columns, you can **omit** **them** in the **INSERT** statements:

**INSERT INTO t1 (num) VALUES (5);**

Then do the following:

1. Create a database named **process\_data**
2. Create a table **processes** in it with two columns:
   1. First named **observation** of type **TIMESTAMP** with a **default** value **CURRENT\_TIMESTAMP**
   2. Second named **amount** of type **INT**
3. Create a script named **processes.sh** that when executed will get the count of all running processes on the system and store it in a local variable. Then it will execute a statement similar to the above, to store the value in the database

## Proof

Upload a document (txt, doc, docx, pdf) containing the commands that you executed in order to accomplish the above tasks.