## Processes and jobs.

#### Jan Trdlička

Department of Computer Systems Faculty of Information Technology Czech Technical University in Prague

trdlicka@fit.cvut.cz

December 14, 2017

#### Contents

- Discussion of homework
- Processes reports
- Timing statistics
- System reports
- Signals
- 6 Jobs
- Momework

#### Discussion of homework

- How to print names of regular files from your home directory, that have size bigger then 2 megabytes, and how to verify the result by the command stat?
- How to print names of all files from your home directory, that were accessed 7 days ago, and how to verify the result by the command stat?
- How to print names of regular files from the directory /tmp, that you can read, and how to verify the result by the command 1s?

### Processes – reports

- Run the command passwd in one terminal and solve the following question in the second terminal.
- How many processes has been started by the current user? Verify your answer.

### Processes – reports

- How many processes has been started by the user root?
- How many processes are running under the effective user identity of the user root?
- How to print the processes which have different real and effective user identity?

# Timing statistics

- How to print timing statistics (real time, system time, user time,...)
   for the following processes?
  - Commands

```
for (( i=0; i<100000; i++ )); do :; done
du ~
sleep 5
ls; sleep 5;</pre>
```

Try to explain the previous results.

# System – reports

- How to print information about top cpu processes?
- Login to server fray1.fit.cvut.cz.
- How to print report information about processes and users by command prstat?
- How to print process tree?

# Signals

- How to print a list of available signals?
- Run the command sleep 100 &. How to send signal QUIT to this process?
- How to print a list of commands associated with each signal of the current shell?
- How to modify the behaviour of the current shell so that the shell will print "Hello", if it receives signal INT?

# Signals

- How to reset the current shell to default behaviour for signal INT?
- How to run 100 times program sleep 1000 in the background?
- How to kill all processes sleep started in the previous task?

#### Jobs

- What is the difference between process ID (PID) and job ID (JID)?
- How to list all jobs in the current shell?
- How to run the command sleep 1000 in foreground.
- How to move the previous command to the background without termination?
- How to terminate the previous command?

#### Homework

- How to print a name of the process which occupies the most physical memory?
- How to print a name of the process which has the most threads?
- Login to the server fray1.fit.cvut.cz.
   How to print a name of the process which spent the most time on CPU (cumulative time)?