

# Mandatory Assignment 2

## Bash scripting

University of Oslo - INF3331/INF43331

Fall 2018

### 2.1: Climbing the directory tree (2 points)

When navigating the directory tree, we often want to go back several directories. In the command line, this is done with e.g. `cd ../../..` which takes us three directories up the tree. When we want to go back several steps, writing `../` many times can get tedious.

Make a bash function `climb` that takes care of this for you. It should take an optional numeric arguments, which defaults to 1. The argument tells the function how many directories it should go up.

#### Examples

- `climb` and `climb 1` is equivalent to `cd ..`
- `climb 5` is equivalent to `cd ../../../../..`

**Note about running:** Because this is something you want to manipulate your current bash session, you cannot run this as a script (i.e. with `bash climb.sh`). Instead, you must source the file containing the function before you run it. i.e. `source climb.sh` and then you can use the function as above in the command line. To make the function work whenever you open a new terminal, you can put it in your `.bashrc`.

Name of file: `climb.sh`

### 2.2: A simple time tracker (5 points)

Create a program for tracking time spent on tasks. It should be rather simple. We are going to assume that we are only working on one task at a time, and the timer is stopped, we cannot start it again without creating a new task.

## Supported functionality

The following ways to use the program should be implemented

- **track start [label]**: Starts a new task with a label. Should print an error message if a task is already running.
- **track stop**: Stops the current task, if there is one running.
- **track status**: Tells us what task we are currently tracking, or if we don't have an active task.

If any other arguments are given, a helpful message should be displayed to tell the user how the program works.

## File format

Here is a suggestion for a file format

```
START Fri Aug 24 15:31:59 CEST 2018
LABEL This is task 1
END Fri Aug 24 15:32:18 CEST 2018
```

```
START Fri Aug 24 15:31:59 CEST 2018
LABEL This is task 2
END Fri Aug 24 15:32:18 CEST 2018
```

The name of the logfile should be set as an environment variable called LOGFILE.

## 2.3 Making the time tracker useful (3 points)

Tracking time isn't really useful unless we can display the data in a useful way. Extend your script from 2.3 to support a `log` command, that displays the time spent on each task on the format `HH:MM:SS`. Example output:

```
Task 1: 02:30:12
Task 2: 00:03:32
```