

## Assignment 2 (bash)

All solutions should be stored in a directory called **assignment2** in your private repository.

### 2.1: Calculator

Make a bash script which can read a bunch of numbers from the command line and print their sum, product, maximum or minimum. Should be executable as `./calc.sh ? 1 2 3 4 5 ...` where `?` is S for sum, P for product, M for maximum and m for minimum. Examples:

```
$ ./calc.sh S 2 5
7
```

```
$ ./calc.sh P 4 2 3
24
```

```
$ ./calc.sh M 5 3 3 2
5
```

```
$ ./calc.sh m 5 3 3 2
2
```

If no numbers are supplied, your script should print an error message.

Name of file: `calc.sh`

Points: 3

### 2.2: Clock

Make a simple clock by creating a bash script which, when run, prints the current time every second. To avoid making the terminal cluttered, have it clear the terminal before printing so only the current time is visible.

Also give the script a command line option to choose the time zone to display: `./clock.sh no` should display Norwegian time, `./clock.sh sk` South Korean time, and `./clock.sh us` display Eastern US (New York) time.

Name of file: `clock.sh`

Points: 2

### 2.3: Personal assistant

In this assignment, you will create a script which can be used as a simple bookmarking tool for bash, which stores bookmarks in a file `.bookmarks` in the user's home directory as a |-separated list `bookmarkname|bookmarklocation`. When run, the script should go through the `.bookmarks` file and for each entry `bookmarkname bookmarklocation` define a shell variable `bookmarkname` with the value `bookmarklocation`.

It should also be callable with arguments **-a bookmarkname** or **-r bookmarkname**. If called as **-a bookmarkname**, it should add the current directory to the file as a bookmark with the name **bookmarkname**.

If called as **-r bookmarkname**, it should delete the bookmark with the name **bookmarkname** from the **.bookmarks** file, and also unset the variable **bookmarkname** so the old bookmark doesn't work anymore.

If called with any other arguments it should print an error message and do nothing. An error message should also be printed if the user forgets to supply the **bookmarkname** as an additional argument with **-a** or **-r**.

Sample usage:

```
$ more $HOME/.my_bookmarks
bestcourse|/home/karlerik/INF3331

$ source ./bookmark.sh

$ echo $bestcourse
/home/karlerik/INF3331

$ cd $bestcourse/assignment2

$ source ../../bookmark.sh -a assignment2

$ more $HOME/.my_bookmarks
bestcourse|/home/karlerik/INF3331
assignment2|/home/karlerik/INF3331/assignment2

$ echo $assignment2
/home/karlerik/INF3331/assignment2

$ source ./bookmark -r bestcourse

$ echo $bestcourse

$ more $HOME/.my_bookmarks
assignment2|/home/karlerik/INF3331/assignment2
```

**Hint:** Defining a new variable with name given by some other variable can be done as

```
export $varname="value"
```

Name of file: bookmark.sh

Points: 5

## Clarifications and hints

### 2.1

- You may assume all numbers are positive integers.

### 2.2

- To change the time zone used by the `date` command, modify the `TZ` environment variable before calling the `date` command.

### 2.3

- Your script does not have to handle errors arising if the user tries to define the same bookmark more than once or makes a bookmark with any non-alphanumeric characters in their name.
- Your script may assume that the file `.bookmarks` exists and is formatted properly.