



# A: SE 2XA3 (2019/20, Term I) Major Lab 1 -- lab section L03

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sample solutions: [script1](#) and [script2](#)

*If you are in the correct lab room and during the SCHEDULED time slot for your lab section for Major Lab 1 and working on one of the lab's workstations, go into Marks+Comments to see if your attendance was registered. If you signed on the course website too early (the most common problem), your attendance would not be recorded; in such case log out and sign on again. If your attendance is still not recorded, ask your TA to record your attendance and email Prof. Franek right away. If you are not using one of the lab's workstations and want to have your attendance recorded, tell the TA.*

*The Major Labs are open book labs, you can bring and use any notes etc. You can access any website, Google, Wikipedia etc. The only thing that is not allowed is cooperation with other people, inside or outside the lab. You must submit your own work. The TA can only help with administrative and technical aspects and not with the solutions of the problems of the Major Lab.*

In this lab, there are two tasks and two deliverables: text files [script1](#) and [script2](#). Each can be submitted either via the course website, or using [2xa3submit](#). For [2xa3submit](#) submission please use [2xa3submit AAA proj1 BBB](#) where AAA is your student number and BBB the name of the file you want to submit. You can submit every file as many times as you wish, the latest submission will be used for marking. The submission is opened from 8:30-11:20 or 14:30-17:20 depending on the lab section; after the closing time no submission is possible. **If submission is not possible for whatever reason (typically right after the submission closes), email the file or files as an attachment immediately (needed for the time verification) to Prof. Franek (franek@mcmaster.ca) with an explanation of the problem; you must use your official McMaster email account for that. Include the course code, your lab section, full name, and your student number. Note that if there is no problem with submission (typically the student using a wrong name for the file), you might be assessed a penalty for email submission, depending on the reason you used email.**

## Task 1. bash script named [script1](#)

The name of your bash script must be **script1** and below is a description of what it should do when executed.

1. The script displays a two-line message. The first line is

- Please enter three-letter code of the day of the week and the second line is examples: Mon, Tue, ..., Sun
- The script reads the user's response into a variable
  - Then it displays a message ++++++
  - Using command `date`, it obtains the current day of the week and stores it in a variable.
  - Then it compares the day entered by the user and the day obtained from `date`. If they are the same, it displays a two-line message: the first line is `Good answer` and the second line is `The day of the week is X` where `X` is the current day of the week, and terminates. If they differ, it displays a two-line message: the first line is `Bad answer` and the second line is `your answer: X, real day: Y` where `X` is the day entered by the user and `Y` the day obtained from `date`, and the script terminates.

*A few useful hints:*

- What commands you might need: `echo`, `date` and ***if statement***.
- If a variable `xxx` contains a string, then the content of the variable is accessed using `$xxx`. If we only want a certain part of the string -- this is called a ***substring*** -- we can access it using `${xxx:P:L}` where `P` is the starting position (a number from 0 to `n-1` where `n` is the length of the string) and `L` is the length of the substring we want. For instance, let `xxx="helloWorld"`, then `${xxx:0:3}` is `hel`, while `${xxx:2:5}` is `lloWo`.
- The comparison of two variables containing strings `xxx` and `yyy` can be executed as

```
if [ $xxx == $yyy ]
then
    ....
else
    ....
fi
```

A sample run:

```
Please enter three-letter code of the day of the week
examples: Mon, Tue, ..., Sun
Mon
+++++++
Bad answer
your answer: Mon, real day: Sun
```

A sample run:

```
Please enter three-letter code of the day of the week
examples: Mon, Tue, ..., Sun
Sun
+++++++
Good answer
The day of the week is Sun
```

## Task 2. bash script named `script2`

The name of your bash script must be **`script2`** and below is a description of what it should do when

executed.

1. The script creates in the current directory a directory named `DIR1` and displays a message `DIR1 created`
2. Then the script creates in the directory `DIR1` a subdirectory named `DIR2` and displays a message `DIR1/DIR2 created`
3. In the directory `DIR2`, the script creates a file named `X` containing one line saying `I am file X`
4. Then it displays a message `contents of DIR2` and shows the contents of `DIR2`
5. Then it displays a message `contents of DIR1` and shows the contents of `DIR1`
6. Then it displays a message `contents of current directory` and displays the contents of the current directory
7. Then it moves the file `X` to current directory from `DIR`
8. Then it tries to remove `DIR1` using `rmdir` (it will not work)
9. Then it tries to remove `DIR1` using `rm` (it will not work)
10. Then it tries to remove `DIR1` using `rm -r` (and it should work)
11. Then it shows the contents of the current directory.
12. The current directory should contain a file named `X` containing one line `I am file X`

*A few useful hints:*

- *What commands and concepts you might need:* `cd mkdir rm echo ls mv cat`
- *Current directory is referred to as `.`, the parent directory as `..`.*  
*For instance, `ls .` will show all files/subdirectories in the current directory, while `ls ..` will show all files/subdirectories in the parent directory.*
- *To terminate execution of a script, you can use the `exit` command.*

Sample run: executing `script2`

```
DIR1 created
DIR1/DIR2 created
contents of DIR2
X
contents of DIR1
DIR2
contents of current directory
DIR1 script1 script2 X
rmdir: DIR1: Directory not empty
rm: cannot remove `DIR1': Is a directory
script1 script2 X
```

And there is a file `X` in the current directory containing one line `I am file X`