

Executable Logging Script

This homework will require you to write a bash script that executes a command and writes its output to a file with a specific name format. There are options to write the error output and to customize the log file name. Your script must complete all of the shalls listed below.

1. The script **shall** accept a name (including path) of a file to execute via command line.
 - (a) The script **shall** print usage information if it is not provided a command to execute.
 - (b) The script **shall** print an appropriate error message if the executable file supplied on the command line does not exist.
 - (c) The script **shall** print an appropriate error message if the file supplied on the command line is not an executable file.
 - (d) The script **shall** ignore any arguments provided after the file name/path. You should assume the file is the first command argument after all of the command options.
2. The script **shall** execute the file name specified on the command line.
3. The script **shall** redirect output from the executed file to the generated log file.
4. The script **shall** print the name of the log file. This can include the path, but is not required.
5. The script **shall** accept 5 command options:
 - (a) When given the *h* command option, the script **shall** print usage and option information and exit. The script should not print anything else regardless of the other command options¹.
 - (b) When given the *a* command option, the script **shall** print authorship information and exit. The script should not print anything else regardless of the other command options².
 - (c) When given the *u* command option, the script **shall** use a unique, temporary file for the log file. This file must be guaranteed to be unique on the system.
 - (d) When given the *d* command option, the log file **shall** include the current date and time as part of the file name.
 - (e) When given the *e* command option, the log file **shall** include the error output for the command (standard error).
6. The script **shall** only specify dates and times according to ISO 8601, ignoring timezone. This means they must be expressed in the format 20150925T235900Z (remember the portable file name character set). You do not have to express the time in UTC (a local timezone is okay). We will talk about locales and timezones at a later date.

¹The only exception is the *a* option.

²The only exception is the *h* option.