Homework 03

The sandbox for this this homework assignment is empty (or is it?). However, you still need to upload a homework tarball. Download the tarball, untar it, and save your scripts in the top level directory. Then create a tarball and upload it as usual.
Your scripts should be executable. My grading script will attempt to run your scripts, and check that they produce the expected result.

1. Write a script that will download the sandbox for a module (taking the module number as an argument) into the `Downloads/` directory in the user's home directory and then untar it into the `Sandboxes/` directory, also in the user's home directory. Name this script `download_and_untar_sandbox`.

2. Write a script that will create a copy of a homework directory with your username appended, create a tarball of this directory, and then delete the directory copy. The script should accept the homework directory as an arugment. Name this script `make_homework_tarball`.

   Example:

   ```
   $ ls
   HW-01 HW-01-cclark.tar.bz2 HW-02
   $ make_homework_tarball HW-02
   $ ls
   HW-01 HW-01-cclark.tar.bz2 HW-02 HW-02-cclark.tar.bz2
   ```

3. Write a script that will create tarball backups of directories or files. The script should accept 1 or more arguments and create a backup tarball for each. The tarball should be timestamped with the date and time in the format YEAR-MONTH-DAY-HOURMIN. For example, if you run the script at 2:30 in the afternoon on Feb 25, 2023, the timestamp should be '2023-02-25-1430'. Name this script `backup`.

   Example:

   ```
   $ ls
   Homework Projects Quizzes
   $ backup Homework
   $ ls
   Homework Homework-2023-02-25-1430.tar.bz2 Projects Quizzes
   ```

   You can use the `date` command with the argument `+%F-%H%M` to generate the time stamp. For example

   Example:

   ```
   $ date
   Fri Feb  3 09:05:23 AM CST 2023
   $ date +%F-%H%M
   2023-02-03-0905
   ```

   The `date` command just prints out the current date, but you can give it an argument that tells it how you want it formatted. See the man page for more details.

4. Write a script that will move all regular files that have the '.tmp' extension at any location under the current directory (meaning any files in sub-directories should also be moved) into a directory named `temporary_files`. Name this script `move_tmp`.

   Example:

   ```
   $ ls
   Homework/ Projects/ Quizzes/ todo.tmp
   $ ls Homework
   HW-01/ HW-01.tmp/ HW-02/ completed.tmp task1.tmp
   $ ls Homework/HW-01/
   file1.tmp file2.tmp files.txt data/
   $ move_tmp
   $ ls
   Homework/ Projects/ Quizzes/ temporary_files/
   $ ls Homework
   HW-01/ HW-01.tmp/ HW-02/
   $ ls Homework/HW-01/
   files.txt data/
   $ ls temporary_files
   task1.tmp file1.tmp file2.tmp
   ```

5. Write a script named `sign.sh` that will create create a directory named `signature/` with a file named `username.txt` that contains you user name, and another file naemd `username.md5` that contains the result of running `md5sum` on the username file.