

Homework 1

This assignment is designed to strengthen your ability to write robust shell scripts that interact with Git, handle user input, and perform basic file system operations. These skills are essential for automation and data science workflows.

Overview

In this assignment, create and submit a file named `hw1.sh`.

This shell script should accept two parameters:

1. A Git repository URL
2. A folder path (absolute or relative) where the repository should be cloned or updated.

Expected Behavior

1. If the folder does not exist, the script should clone the repository into that folder.
2. If the folder already exists, the script should assume it's a Git repo and pull the latest changes.
3. If any operation fails (clone or pull), it should print an appropriate failure message.

For instance, if you run

``sh hw1.sh https://github.com/dianewoodbridge/msds501_computation_2025 hw1``,
this should either clone or pull depending on the existence of the folder named as `hw1`.

Requirements

Please submit `hw1.sh`, which performs the following operations.

1. Parameter check: Make sure that a user provides two parameters. Otherwise, this should print the following two lines.

Please check the format.

Example: `"sh ./hw1.sh git_url folder_path"`

You can assume that you have an access to the given `git_url` (first parameter).

2. Git Operations:
 - 1) If the folder is not created yet, clone the repository to the given folder path.
 - I. On success, print:
"Success: Cloned from [url] to [folder] "
 - II. On failure, print after the Git error message:
"Failed to clone from [url] to [folder]"
 - 2) If the folder exists, you can assume that it is a git repository and update it to the latest version using `git pull`.
 - III. On success, print:
"Success: Pulled from [url] to [folder]"
 - IV. On failure, print after the Git error message:
"Failed to pull from [url] to [folder]"

- 3) When your code fails, failure message ("Failed to clone from [url] to [folder] ") will be printed after the fatal error messages.

Example

```
dwoodbridge@ML-ITS-210588 HW1 % sh hw1.sh something here
fatal: repository 'something' does not exist
Failed to clone from something to here
```

3. List folder contents

After a successful clone or pull, print the folder contents in long format.

Note

- This assignment is for writing a shell script, not other programming languages including Python.
- The code can be run on any location on your computer.

Example Output (Note: It may look different if there is any updates on the git repo)

First run

```
dwoodbridge@ML-ITS-210588 HW1 % sh hw1.sh
https://github.com/dianewoodbridge/msds501_computation_2025 Examples
Cloning into 'Examples'...
remote: Enumerating objects: 32, done.
remote: Counting objects: 100% (32/32), done.
remote: Compressing objects: 100% (26/26), done.
remote: Total 32 (delta 4), reused 29 (delta 4), pack-reused 0 (from 0)
Receiving objects: 100% (32/32), 184.09 KiB | 1.59 MiB/s, done.
Resolving deltas: 100% (4/4), done.
Success: Cloned from https://github.com/dianewoodbridge/msds501_computation_2025 to
Examples
total 24
drwxr-xr-x  8 dwoodbridge 2062094358 256 Jun 29 15:13 .
drwxr-xr-x  4 dwoodbridge 2062094358 128 Jun 29 15:13 ..
drwxr-xr-x 12 dwoodbridge 2062094358 384 Jun 29 15:13 .git
-rw-r--r--  1 dwoodbridge 2062094358 4711 Jun 29 15:13 .gitignore
drwxr-xr-x  9 dwoodbridge 2062094358 288 Jun 29 15:13 Data
drwxr-xr-x  5 dwoodbridge 2062094358 160 Jun 29 15:13 Day1
drwxr-xr-x  7 dwoodbridge 2062094358 224 Jun 29 15:13 Day2
-rw-r--r--  1 dwoodbridge 2062094358 770 Jun 29 15:13 README.md
```

Second run

```
dwoodbridge@ML-ITS-210588 HW1 % sh hw1.sh
https://github.com/dianewoodbridge/msds501_computation_2025 Examples
Already up to date.
Success: Pulled from https://github.com/dianewoodbridge/msds501_computation_2025 to
Examples
total 24
drwxr-xr-x  8 dwoodbridge 2062094358 256 Jun 29 15:13 .
drwxr-xr-x  4 dwoodbridge 2062094358 128 Jun 29 15:13 ..
drwxr-xr-x 14 dwoodbridge 2062094358 448 Jun 29 15:13 .git
-rw-r--r--  2 dwoodbridge 2062094358 4711 Jun 29 15:13 .gitignore
drwxr-xr-x  9 dwoodbridge 2062094358 288 Jun 29 15:13 Data
drwxr-xr-x  5 dwoodbridge 2062094358 160 Jun 29 15:13 Day1
drwxr-xr-x  7 dwoodbridge 2062094358 224 Jun 29 15:13 Day2
-rw-r--r--  2 dwoodbridge 2062094358 770 Jun 29 15:13 README.md
```