Basic Bash

Hamid Semiyari

- [Bash Reference Manual](#)

- **Note: make sure to download the file `git_hist.txt` into your working directory. We will use it later.**

BASH

Basic Bash (Bourne Again SHel)

- `GNU` read "Gnoo" is an open source operating system.

- Bash is the GNU Project's shell

The Command Line

- The **command line** is like the R command prompt: you insert code, hit enter, and then the computer executes your command.

- However, instead of inserting R code, you insert Shell Script.

- In this class, we will use the command line primarily for two things:

    - Moving around your file system.
    - Running git commands.

Other words for command line:

- Shell,

- terminal,

- command line interface (cli), and

- console.

    – These terms are technically slightly different.

- There are many types of shells, each with their own scripting language. We will use the bash scripting language for this class.

- A huge difference between R and bash is how commands/functions are called.

    – R: `f(x, y = 1)`
    – Bash: `f x --y=1`
    – Arguments that are "flags" use only one dash, like `f x -g` would incorporate the `g` flag.

BASH

In Bash, the usage of `-` and `--` helps distinguish between single-character flags (options) and multi-character flags (options with names).

Single Dash (-) in Bash:

- A single dash (-) is used to denote a **short flag** (option), typically a single character.
- Multiple flags can be combined into one, making it more compact.

Example:

```
# Using the flag '-g' to specify a flag for the function
f x -g
```

Here, `-g` is a short flag. This could mean, for instance, that you're passing a specific option to the function `f`.

Examples

- Short flags

  - `a`: Show all files, including hidden files.
  - `l`: Use long listing format (shows detailed information about files).
  - `s`: Sort files by size, largest to smallest.

```
ls -a
```

```
.
..
.Rhistory
1_intro.html
1_intro.qmd
1_intro_files
2_update_r-rstudio_files
2_update_r_rstudio.pdf
2_update_r_rstudio.qmd
3_basic_bash.pdf
3_basic_bash.qmd
3_basic_bash.rmarkdown
4_vcs_git.pdf
4_vcs_git.qmd
5_git_setup.qmd
6_github_setu_files
6_github_setup.pdf
6_github_setup.qmd
6a_authentication_github_ssh.pdf
6a_authentication_github_ssh.qmd
6b_2fa.pdf
6b_2fa.qmd
6c_pat.pdf
6c_pat.qmd
7_git_basic.aux
7_git_basic.log
7_git_basic.pdf
7_git_basic.qmd
7_git_basic.tex
7_git_basic_files
8_git_github.pdf
8_git_github.qmd
8a1_ssh_pat.pdf
```

```
8a1_ssh_pat.qmd
8a2_init_repo.pdf
8a2_init_repo.qmd
8a_ssh_pat_files
8b_push.pdf
8b_push.qmd
8c_pull_fork.pdf
8c_pull_fork.qmd
8d_move_remove.pdf
8d_move_remove.qmd
9_practice.html
9_practice.qmd
9_practice_files
Authentication_github_PAT.qmd
BasicBash.qmd
Exercise-Bash.html
Exercise-Bash.qmd
Exercise-Bash_files
Git_1.jpg
Git_2.jpg
Git_3.jpg
MYGIT.txt
Makeup_Quiz_Git.docx
NotePractice.R
TODO.md
authentication-pat.html
authentication-pat_files
basic-usage.png
file1.txt
git.txt
git.txt.1
git.txt.10
git.txt.2
git.txt.3
git.txt.4
git.txt.5
git.txt.6
git.txt.7
git.txt.8
git.txt.9
git_github_basicGit.html
git_github_basicGit.qmd
git_github_basicGit_files
```

```
git_hist.txt
git_setup.qmd
gitbasic_commit_push_pull.html
gitbasic_commit_push_pull.qmd
gitbasic_commit_push_pull_files
github_large_file_error.html
github_large_file_error.qmd
github_large_file_error_files
init_repo_files
pat_clone.qmd
practice_open_data.R
raw.githubusercontent.com
semiyari_hw.R
ssh_pat_2fa.qmd
```

You can also combine short flags in a single command:

```
f x -g -h
```

This can also be written as:

```
f x -gh
```

Example:

```
ls -s -l
```

```
total 34702
   36 -rw-r--r-- 1 semiyari Domain Users    35908 Jun 25  2024 1_intro.html
    4 -rw-r--r-- 1 semiyari Domain Users     3367 Jun 25  2024 1_intro.qmd
    0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 1_intro_files
    0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 2_update_r-rstudio_files
  500 -rw-r--r-- 1 semiyari Domain Users   508101 Jan 20  2024 2_update_r_rstudio.pdf
    8 -rw-r--r-- 1 semiyari Domain Users     7155 Feb 20  2024 2_update_r_rstudio.qmd
  140 -rw-r--r-- 1 semiyari Domain Users   142658 Jan 22 00:01 3_basic_bash.pdf
   16 -rw-r--r-- 1 semiyari Domain Users    13741 Jan 22 00:03 3_basic_bash.qmd
   16 -rw-r--r-- 1 semiyari Domain Users    13927 Jan 22 00:03 3_basic_bash.rmarkdown
   56 -rw-r--r-- 1 semiyari Domain Users    54082 Feb 13  2024 4_vcs_git.pdf
    8 -rw-r--r-- 1 semiyari Domain Users     6730 Feb 13  2024 4_vcs_git.qmd
   12 -rw-r--r-- 1 semiyari Domain Users     9602 Sep  4 20:47 5_git_setup.qmd
    0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 6_github_setu_files
```

```
  228 -rw-r--r-- 1 semiyari Domain Users    233209 Feb 13  2024 6_github_setup.pdf
    8 -rw-r--r-- 1 semiyari Domain Users      4450 Sep  9 12:16 6_github_setup.qmd
  864 -rw-r--r-- 1 semiyari Domain Users    882990 Feb 17  2024 6a_authentication_github_ssh.p
    8 -rw-r--r-- 1 semiyari Domain Users      5256 Feb 17  2024 6a_authentication_github_ssh.
 1220 -rw-r--r-- 1 semiyari Domain Users   1246943 Feb 13  2024 6b_2fa.pdf
    4 -rw-r--r-- 1 semiyari Domain Users      3198 Feb 13  2024 6b_2fa.qmd
 2744 -rw-r--r-- 1 semiyari Domain Users   2805849 Feb 13  2024 6c_pat.pdf
    8 -rw-r--r-- 1 semiyari Domain Users      7877 Feb 13  2024 6c_pat.qmd
    4 -rw-r--r-- 1 semiyari Domain Users      3649 Feb 13  2024 7_git_basic.aux
   68 -rw-r--r-- 1 semiyari Domain Users     67082 Feb 13  2024 7_git_basic.log
  184 -rw-r--r-- 1 semiyari Domain Users    188043 Feb 13  2024 7_git_basic.pdf
   44 -rw-r--r-- 1 semiyari Domain Users     41590 Feb 13  2024 7_git_basic.qmd
   56 -rw-r--r-- 1 semiyari Domain Users     57300 Feb 13  2024 7_git_basic.tex
    0 drwxr-xr-x 1 semiyari Domain Users         0 Aug 26 16:53 7_git_basic_files
 1320 -rw-r--r-- 1 semiyari Domain Users   1351296 Feb 13  2024 8_git_github.pdf
   36 -rw-r--r-- 1 semiyari Domain Users     32871 Feb 13  2024 8_git_github.qmd
 1792 -rw-r--r-- 1 semiyari Domain Users   1834121 Feb 13  2024 8a1_ssh_pat.pdf
    4 -rw-r--r-- 1 semiyari Domain Users      1709 Feb 13  2024 8a1_ssh_pat.qmd
   48 -rw-r--r-- 1 semiyari Domain Users     46457 Feb 13  2024 8a2_init_repo.pdf
    8 -rw-r--r-- 1 semiyari Domain Users      4260 Feb 13  2024 8a2_init_repo.qmd
    0 drwxr-xr-x 1 semiyari Domain Users         0 Aug 26 16:53 8a_ssh_pat_files
 7988 -rw-r--r-- 1 semiyari Domain Users   8178490 Feb 13  2024 8b_push.pdf
    8 -rw-r--r-- 1 semiyari Domain Users      7489 Feb 13  2024 8b_push.qmd
 3712 -rw-r--r-- 1 semiyari Domain Users   3800036 Feb 13  2024 8c_pull_fork.pdf
    8 -rw-r--r-- 1 semiyari Domain Users      7925 Feb 13  2024 8c_pull_fork.qmd
12120 -rw-r--r-- 1 semiyari Domain Users  12408068 Feb 13  2024 8d_move_remove.pdf
    8 -rw-r--r-- 1 semiyari Domain Users      5491 Feb 13  2024 8d_move_remove.qmd
   56 -rw-r--r-- 1 semiyari Domain Users     54791 Jun 25  2024 9_practice.html
   16 -rw-r--r-- 1 semiyari Domain Users     16155 Jun 25  2024 9_practice.qmd
    0 drwxr-xr-x 1 semiyari Domain Users         0 Aug 26 16:53 9_practice_files
    8 -rw-r--r-- 1 semiyari Domain Users      5360 Jan 20  2024 Authentication_github_PAT.qmd
    4 -rw-r--r-- 1 semiyari Domain Users      2690 Jan 10  2024 BasicBash.qmd
   16 -rw-r--r-- 1 semiyari Domain Users     14410 Feb  3  2024 Exercise-Bash.html
    4 -rw-r--r-- 1 semiyari Domain Users      1542 Feb  2  2024 Exercise-Bash.qmd
    0 drwxr-xr-x 1 semiyari Domain Users         0 Aug 26 16:53 Exercise-Bash_files
  112 -rw-r--r-- 1 semiyari Domain Users    113035 Jan 10  2023 Git_1.jpg
   80 -rw-r--r-- 1 semiyari Domain Users     80640 Jan 10  2023 Git_2.jpg
  284 -rw-r--r-- 1 semiyari Domain Users    289255 Jan 10  2023 Git_3.jpg
   44 -rw-r--r-- 1 semiyari Domain Users     41884 Feb 21  2024 MYGIT.txt
   20 -rw-r--r-- 1 semiyari Domain Users     16902 Oct  2 18:17 Makeup_Quiz_Git.docx
   36 -rw-r--r-- 1 semiyari Domain Users     33482 Jan  1  2024 NotePractice.R
    1 -rw-r--r-- 1 semiyari Domain Users       489 Mar 15  2024 TODO.md
   32 -rw-r--r-- 1 semiyari Domain Users     32069 Jan 15  2024 authentication-pat.html
```

```
   0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 authentication-pat_files
  24 -rw-r--r-- 1 semiyari Domain Users    23967 Feb 13  2023 basic-usage.png
   1 -rw-r--r-- 1 semiyari Domain Users      131 Jan 22 00:01 file1.txt
  44 -rw-r--r-- 1 semiyari Domain Users    41672 Jan 14  2024 git.txt
  44 -rw-r--r-- 1 semiyari Domain Users    41880 Jan 20  2024 git.txt.1
  44 -rw-r--r-- 1 semiyari Domain Users    41884 Feb 21  2024 git.txt.10
  44 -rw-r--r-- 1 semiyari Domain Users    41880 Jan 20  2024 git.txt.2
  44 -rw-r--r-- 1 semiyari Domain Users    41880 Feb  4  2024 git.txt.3
  44 -rw-r--r-- 1 semiyari Domain Users    41884 Feb 13  2024 git.txt.4
  44 -rw-r--r-- 1 semiyari Domain Users    41884 Feb 13  2024 git.txt.5
  44 -rw-r--r-- 1 semiyari Domain Users    41884 Feb 13  2024 git.txt.6
  44 -rw-r--r-- 1 semiyari Domain Users    41884 Feb 13  2024 git.txt.7
  44 -rw-r--r-- 1 semiyari Domain Users    41884 Feb 13  2024 git.txt.8
  44 -rw-r--r-- 1 semiyari Domain Users    41884 Feb 13  2024 git.txt.9
  32 -rw-r--r-- 1 semiyari Domain Users    30310 Jan 16  2024 git_github_basicGit.html
  12 -rw-r--r-- 1 semiyari Domain Users    10664 Jan 29  2024 git_github_basicGit.qmd
   0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 git_github_basicGit_files
   4 -rw-r--r-- 1 semiyari Domain Users     1353 Jan 13  2024 git_hist.txt
   8 -rw-r--r-- 1 semiyari Domain Users     6122 Jan 20  2024 git_setup.qmd
  40 -rw-r--r-- 1 semiyari Domain Users    39502 Jan 24  2024 gitbasic_commit_push_pull.html
  16 -rw-r--r-- 1 semiyari Domain Users    14574 Jan 17  2024 gitbasic_commit_push_pull.qmd
   0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 gitbasic_commit_push_pull_file
  24 -rw-r--r-- 1 semiyari Domain Users    24371 Jun 25  2024 github_large_file_error.html
   4 -rw-r--r-- 1 semiyari Domain Users     2375 Jun 25  2024 github_large_file_error.qmd
   0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 github_large_file_error_files
   0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 init_repo_files
  12 -rw-r--r-- 1 semiyari Domain Users    11396 Jan 20  2024 pat_clone.qmd
  28 -rw-r--r-- 1 semiyari Domain Users    26892 Jan 10  2024 practice_open_data.R
   0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 raw.githubusercontent.com
   0 -rw-r--r-- 1 semiyari Domain Users        0 Sep 17 14:10 semiyari_hw.R
  12 -rw-r--r-- 1 semiyari Domain Users     9408 Jan 16  2024 ssh_pat_2fa.qmd
```

- The `head` command shows only the first few lines of the output.

```
ls -sl | head -n 5
```

```
total 34702
  36 -rw-r--r-- 1 semiyari Domain Users    35908 Jun 25  2024 1_intro.html
   4 -rw-r--r-- 1 semiyari Domain Users     3367 Jun 25  2024 1_intro.qmd
   0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 1_intro_files
   0 drwxr-xr-x 1 semiyari Domain Users        0 Aug 26 16:53 2_update_r-rstudio_files
```

- The `tail` command shows only the last few lines of the output.

```
ls -s -a | tail -n 5
```

```
 12 pat_clone.qmd
 28 practice_open_data.R
  0 raw.githubusercontent.com
  0 semiyari_hw.R
 12 ssh_pat_2fa.qmd
```

Double Dash (--) in Bash:

- The double dash (--) is used for **long options** (flags that have full names).
- These options are more readable and descriptive compared to the short options.

Example:

```
# Using the flag '--y' to specify a named flag
f x --y=1
```

In this case, `--y` is a long flag, and `=1` specifies a value associated with it.

Explanation of each: 1. `-g`: A short flag, often used for simpler options. 2. `--y=1`: A long flag, more descriptive and explicit with the assignment.

```
ls --all | head -n 5
```

```
.
..
.Rhistory
1_intro.html
1_intro.qmd
```

- `sed` can be used for more precise slicing of lines.
- The following will print lines 70 through 80 from the output.

```
ls --help | sed -n '70,80p'
```

```
 -r, --reverse              reverse order while sorting
 -R, --recursive            list subdirectories recursively
 -s, --size                 print the allocated size of each file, in blocks
 -S                         sort by file size, largest first
```

```
        --sort=WORD              sort by WORD instead of name: none (-U), size (-S),
                                    time (-t), version (-v), extension (-X)
        --time=WORD             change the default of using modification times;
                                    access time (-u): atime, access, use;
                                    change time (-c): ctime, status;
                                    birth time: birth, creation;
                                with -l, WORD determines which time to show;
```

Comparing Bash with R:

In **R**, the function arguments are usually passed in a more explicit way, and the syntax does not include flags in the same sense as Bash.

- **In R**:

```
f(x, y = 1)
```

Here: - x: is a positional argument. - y = 1: is a named argument, with y explicitly assigned the value 1.

In this case, the argument y is **named**, and the assignment = 1 is used directly.

Summary Comparison:

Feature	Bash	R
Short flag	f x -g	N/A
Long flag	f x --y=1	f(x, y = 1) (Named argument)
Flags in Bash	-g, --y=1	Not applicable (R uses named arguments)

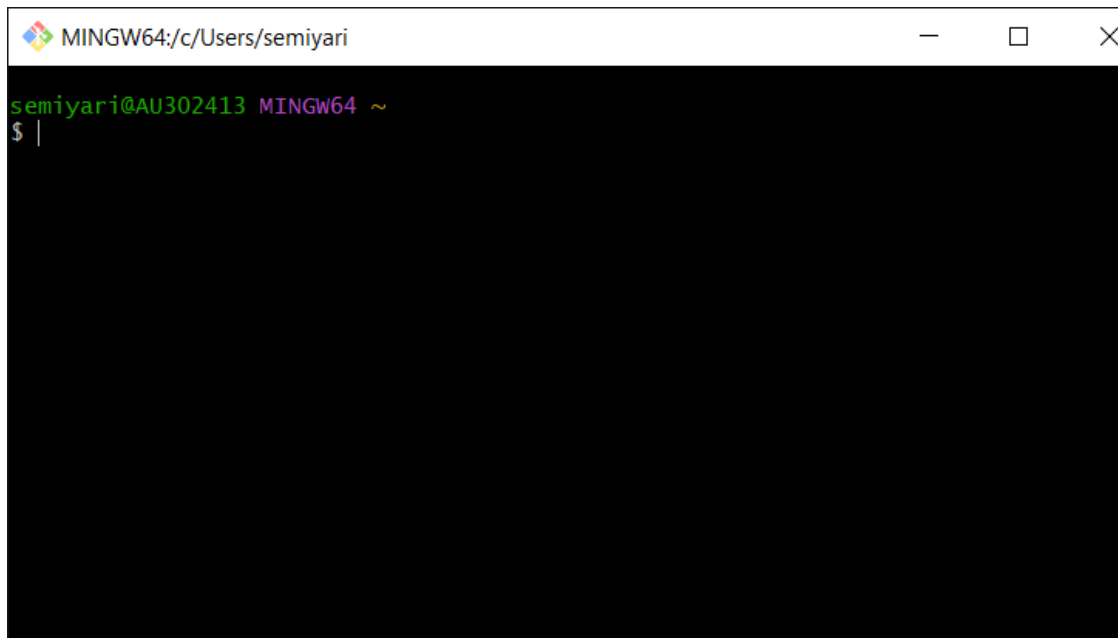- In Bash, flags are used to modify behavior, while in R, arguments are more explicitly passed in a structured way, often with default values.

Installing Bash/Terminal

- If you are using Linux or Mac, then you can keep going. If you are using Windows, you need to first download and install git (and thus git bash) from here: http://git-scm.com/download/win. You might need to restart R Studio if you are already running it.

Open up the terminal

- Windows: Open up the Git Bash app. It should look like this:

- Mac: On your Mac, do one of the following:

- Click the Launchpad icon in the Dock, type Terminal in the search field, then click

  Terminal. - In the Finder , open the /Applications/Utilities folder, then double-click Terminal.

- Ubuntu: Do one of the following
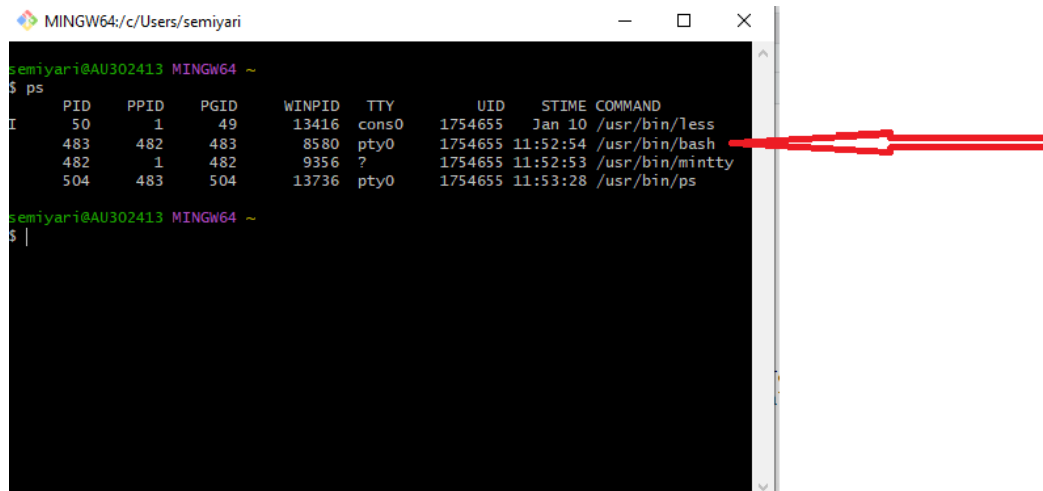
Open the dash and search for "terminal". Open up the terminal.

Use keyboard shortcut: Ctrl+Alt+T

- **The easiest way to open a terminal is within R Studio with "Tools > Terminal > New Terminal"**

- All commands get placed after the dollar sign.

  – Bash is type of shell. There are different type of shells available, such as Korn shell (ksh), C shell (csh), and Z shell (zsh).

– You can determine your shell type using the `ps` command:

- The path before the dollar sign is the working directory of the terminal, **not** R's working directory. It's where the shell will reference all files from.

- The tilde "`~`" is shorthand for the "home directory". Each computer has a home directory that is the "default directory".

Useful Commands:

- `date`: Displays the current date

```
date
```

```
Wed Jan 22 00:03:14 EST 2025
```

- `pwd`: Print working directory. Show the current working directory. This is like `getwd()` in R.

```
pwd
```

```
/c/Users/semiyari/Desktop/Personal/AU/DATA613/AU-DATA613/Git
```

- `ls`: List the current files and folders in a directory.

```
ls
```

```
1_intro.html
1_intro.qmd
1_intro_files
2_update_r-rstudio_files
2_update_r_rstudio.pdf
2_update_r_rstudio.qmd
3_basic_bash.pdf
3_basic_bash.qmd
3_basic_bash.rmarkdown
4_vcs_git.pdf
4_vcs_git.qmd
5_git_setup.qmd
6_github_setu_files
6_github_setup.pdf
6_github_setup.qmd
6a_authentication_github_ssh.pdf
6a_authentication_github_ssh.qmd
6b_2fa.pdf
6b_2fa.qmd
6c_pat.pdf
6c_pat.qmd
7_git_basic.aux
7_git_basic.log
7_git_basic.pdf
7_git_basic.qmd
7_git_basic.tex
7_git_basic_files
8_git_github.pdf
8_git_github.qmd
8a1_ssh_pat.pdf
8a1_ssh_pat.qmd
8a2_init_repo.pdf
8a2_init_repo.qmd
8a_ssh_pat_files
8b_push.pdf
8b_push.qmd
8c_pull_fork.pdf
8c_pull_fork.qmd
8d_move_remove.pdf
8d_move_remove.qmd
```

```
9_practice.html
9_practice.qmd
9_practice_files
Authentication_github_PAT.qmd
BasicBash.qmd
Exercise-Bash.html
Exercise-Bash.qmd
Exercise-Bash_files
Git_1.jpg
Git_2.jpg
Git_3.jpg
MYGIT.txt
Makeup_Quiz_Git.docx
NotePractice.R
TODO.md
authentication-pat.html
authentication-pat_files
basic-usage.png
file1.txt
git.txt
git.txt.1
git.txt.10
git.txt.2
git.txt.3
git.txt.4
git.txt.5
git.txt.6
git.txt.7
git.txt.8
git.txt.9
git_github_basicGit.html
git_github_basicGit.qmd
git_github_basicGit_files
git_hist.txt
git_setup.qmd
gitbasic_commit_push_pull.html
gitbasic_commit_push_pull.qmd
gitbasic_commit_push_pull_files
github_large_file_error.html
github_large_file_error.qmd
github_large_file_error_files
init_repo_files
pat_clone.qmd
```

```
practice_open_data.R
raw.githubusercontent.com
semiyari_hw.R
ssh_pat_2fa.qmd
```

- **echo**: Prints a string of text, or value of a variable to the terminal.

```
echo "Hello World"
```

```
Hello World
```

- **man** command in Linux is used to display the user manual of any command that we can run on the terminal.

```
man ls
```

```
/c/RBUILD~1/4.4/usr/bin/bash: line 1: man: command not found
```

- If you are using Windows with a Bash emulator like Git Bash, the man command may not be available. You can use online resources or alternative commands like **--help**. You can scroll through this page using the up and down arrows.

```
ls --help
```

```
Usage: ls [OPTION]... [FILE]...
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.
  -a, --all                  do not ignore entries starting with .
  -A, --almost-all           do not list implied . and ..
      --author               with -l, print the author of each file
  -b, --escape               print C-style escapes for nongraphic characters
      --block-size=SIZE      with -l, scale sizes by SIZE when printing them;
                               e.g., '--block-size=M'; see SIZE format below
  -B, --ignore-backups       do not list implied entries ending with ~
  -c                         with -lt: sort by, and show, ctime (time of last
                               modification of file status information);
                               with -l: show ctime and sort by name;
                               otherwise: sort by ctime, newest first
  -C                         list entries by columns
      --color[=WHEN]         colorize the output; WHEN can be 'always' (default
```

```
                              if omitted), 'auto', or 'never'; more info below
-d, --directory           list directories themselves, not their contents
-D, --dired               generate output designed for Emacs' dired mode
-f                        do not sort, enable -aU, disable -ls --color
-F, --classify            append indicator (one of */=>@|) to entries
    --file-type           likewise, except do not append '*'
    --format=WORD         across -x, commas -m, horizontal -x, long -l,
                            single-column -1, verbose -l, vertical -C
    --full-time           like -l --time-style=full-iso
-g                        like -l, but do not list owner
    --group-directories-first
                          group directories before files;
                            can be augmented with a --sort option, but any
                            use of --sort=none (-U) disables grouping
-G, --no-group            in a long listing, don't print group names
-h, --human-readable      with -l and -s, print sizes like 1K 234M 2G etc.
    --si                  likewise, but use powers of 1000 not 1024
-H, --dereference-command-line
                          follow symbolic links listed on the command line
    --dereference-command-line-symlink-to-dir
                          follow each command line symbolic link
                            that points to a directory
    --hide=PATTERN        do not list implied entries matching shell PATTERN
                            (overridden by -a or -A)
    --hyperlink[=WHEN]    hyperlink file names; WHEN can be 'always'
                            (default if omitted), 'auto', or 'never'
    --indicator-style=WORD  append indicator with style WORD to entry names:
                            none (default), slash (-p),
                            file-type (--file-type), classify (-F)
-i, --inode               print the index number of each file
-I, --ignore=PATTERN      do not list implied entries matching shell PATTERN
-k, --kibibytes           default to 1024-byte blocks for disk usage;
                            used only with -s and per directory totals
-l                        use a long listing format
-L, --dereference         when showing file information for a symbolic
                            link, show information for the file the link
                            references rather than for the link itself
-m                        fill width with a comma separated list of entries
-n, --numeric-uid-gid     like -l, but list numeric user and group IDs
-N, --literal             print entry names without quoting
-o                        like -l, but do not list group information
-p, --indicator-style=slash
                          append / indicator to directories
```

```
    -q, --hide-control-chars   print ? instead of nongraphic characters
        --show-control-chars   show nongraphic characters as-is (the default,
                                 unless program is 'ls' and output is a terminal)
    -Q, --quote-name           enclose entry names in double quotes
        --quoting-style=WORD   use quoting style WORD for entry names:
                                   literal, locale, shell, shell-always,
                                   shell-escape, shell-escape-always, c, escape
                                   (overrides QUOTING_STYLE environment variable)
    -r, --reverse              reverse order while sorting
    -R, --recursive            list subdirectories recursively
    -s, --size                 print the allocated size of each file, in blocks
    -S                         sort by file size, largest first
        --sort=WORD            sort by WORD instead of name: none (-U), size (-S),
                                 time (-t), version (-v), extension (-X)
        --time=WORD            change the default of using modification times;
                                 access time (-u): atime, access, use;
                                 change time (-c): ctime, status;
                                 birth time: birth, creation;
                               with -l, WORD determines which time to show;
                               with --sort=time, sort by WORD (newest first)
        --time-style=TIME_STYLE  time/date format with -l; see TIME_STYLE below
    -t                         sort by time, newest first; see --time
    -T, --tabsize=COLS         assume tab stops at each COLS instead of 8
    -u                         with -lt: sort by, and show, access time;
                                 with -l: show access time and sort by name;
                                 otherwise: sort by access time, newest first
    -U                         do not sort; list entries in directory order
    -v                         natural sort of (version) numbers within text
    -w, --width=COLS           set output width to COLS.  0 means no limit
    -x                         list entries by lines instead of by columns
    -X                         sort alphabetically by entry extension
    -Z, --context              print any security context of each file
    -1                         list one file per line.  Avoid '\n' with -q or -b
        --append-exe           append .exe if cygwin magic was needed
        --help     display this help and exit
        --version  output version information and exit
```

The SIZE argument is an integer and optional unit (example: 10K is 10*1024).
Units are K,M,G,T,P,E,Z,Y (powers of 1024) or KB,MB,... (powers of 1000).
Binary prefixes can be used, too: KiB=K, MiB=M, and so on.

The TIME_STYLE argument can be full-iso, long-iso, iso, locale, or +FORMAT.
FORMAT is interpreted like in date(1). If FORMAT is FORMAT1<newline>FORMAT2,

```
then FORMAT1 applies to non-recent files and FORMAT2 to recent files.
TIME_STYLE prefixed with 'posix-' takes effect only outside the POSIX locale.
Also the TIME_STYLE environment variable sets the default style to use.

Using color to distinguish file types is disabled both by default and
with --color=never.  With --color=auto, ls emits color codes only when
standard output is connected to a terminal.  The LS_COLORS environment
variable can change the settings.  Use the dircolors command to set it.

Exit status:
 0  if OK,
 1  if minor problems (e.g., cannot access subdirectory),
 2  if serious trouble (e.g., cannot access command-line argument).

GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
Report any translation bugs to <https://translationproject.org/team/>
Full documentation <https://www.gnu.org/software/coreutils/ls>
or available locally via: info '(coreutils) ls invocation'
```

- Comments in bash starts with a `#` in bash scripting. This means that any line that begins with a `#`is a comment and will be ignored by the interpreter.

```
echo "Comments in bash starts with a # in bash scripting." # This line that begins with a `#
```

```
Comments in bash starts with a # in bash scripting.
```

- `cd`: Change directories. This is like `setwd()` in R. As when we specified paths in R, using two periods mean "move back a folder".

```
    pwd
```

```
/c/Users/semiyari/Desktop/Personal/AU/DATA613/AU-DATA613/Git
```

- The `cd../` tells move back a folder

```
    cd ../
    pwd
```

```
/c/Users/semiyari/Desktop/Personal/AU/DATA613/AU-DATA613
```

- If you use `cd` without specifying a folder to move to, it will move the working directory to the home directory.

```
    cd
    pwd
```

/c/Users/semiyari/Documents

- OK, I'm going to move us back to the "Week1" directory.

```
    cd c:Users/semiyari/Desktop/Personal/AU/DATA613/Spring24/Week1
    pwd
```

/c/RBUILD~1/4.4/usr/bin/bash: line 1: cd: c:Users/semiyari/Desktop/Personal/AU/DATA613/Spring
/c/Users/semiyari/Desktop/Personal/AU/DATA613/AU-DATA613/Git

Other commands.

```
ls
```

```
1_intro.html
1_intro.qmd
1_intro_files
2_update_r-rstudio_files
2_update_r_rstudio.pdf
2_update_r_rstudio.qmd
3_basic_bash.pdf
3_basic_bash.qmd
3_basic_bash.rmarkdown
4_vcs_git.pdf
4_vcs_git.qmd
5_git_setup.qmd
6_github_setu_files
6_github_setup.pdf
6_github_setup.qmd
6a_authentication_github_ssh.pdf
6a_authentication_github_ssh.qmd
6b_2fa.pdf
6b_2fa.qmd
6c_pat.pdf
6c_pat.qmd
```

```
7_git_basic.aux
7_git_basic.log
7_git_basic.pdf
7_git_basic.qmd
7_git_basic.tex
7_git_basic_files
8_git_github.pdf
8_git_github.qmd
8a1_ssh_pat.pdf
8a1_ssh_pat.qmd
8a2_init_repo.pdf
8a2_init_repo.qmd
8a_ssh_pat_files
8b_push.pdf
8b_push.qmd
8c_pull_fork.pdf
8c_pull_fork.qmd
8d_move_remove.pdf
8d_move_remove.qmd
9_practice.html
9_practice.qmd
9_practice_files
Authentication_github_PAT.qmd
BasicBash.qmd
Exercise-Bash.html
Exercise-Bash.qmd
Exercise-Bash_files
Git_1.jpg
Git_2.jpg
Git_3.jpg
MYGIT.txt
Makeup_Quiz_Git.docx
NotePractice.R
TODO.md
authentication-pat.html
authentication-pat_files
basic-usage.png
file1.txt
git.txt
git.txt.1
git.txt.10
git.txt.2
git.txt.3
```

```
git.txt.4
git.txt.5
git.txt.6
git.txt.7
git.txt.8
git.txt.9
git_github_basicGit.html
git_github_basicGit.qmd
git_github_basicGit_files
git_hist.txt
git_setup.qmd
gitbasic_commit_push_pull.html
gitbasic_commit_push_pull.qmd
gitbasic_commit_push_pull_files
github_large_file_error.html
github_large_file_error.qmd
github_large_file_error_files
init_repo_files
pat_clone.qmd
practice_open_data.R
raw.githubusercontent.com
semiyari_hw.R
ssh_pat_2fa.qmd
```

- cp: Copy a file.

```
cp Exercise-Bash.qmd copy_exercise_bash.qmd
ls
```

```
1_intro.html
1_intro.qmd
1_intro_files
2_update_r-rstudio_files
2_update_r_rstudio.pdf
2_update_r_rstudio.qmd
3_basic_bash.pdf
3_basic_bash.qmd
3_basic_bash.rmarkdown
4_vcs_git.pdf
4_vcs_git.qmd
5_git_setup.qmd
6_github_setu_files
```

```
6_github_setup.pdf
6_github_setup.qmd
6a_authentication_github_ssh.pdf
6a_authentication_github_ssh.qmd
6b_2fa.pdf
6b_2fa.qmd
6c_pat.pdf
6c_pat.qmd
7_git_basic.aux
7_git_basic.log
7_git_basic.pdf
7_git_basic.qmd
7_git_basic.tex
7_git_basic_files
8_git_github.pdf
8_git_github.qmd
8a1_ssh_pat.pdf
8a1_ssh_pat.qmd
8a2_init_repo.pdf
8a2_init_repo.qmd
8a_ssh_pat_files
8b_push.pdf
8b_push.qmd
8c_pull_fork.pdf
8c_pull_fork.qmd
8d_move_remove.pdf
8d_move_remove.qmd
9_practice.html
9_practice.qmd
9_practice_files
Authentication_github_PAT.qmd
BasicBash.qmd
Exercise-Bash.html
Exercise-Bash.qmd
Exercise-Bash_files
Git_1.jpg
Git_2.jpg
Git_3.jpg
MYGIT.txt
Makeup_Quiz_Git.docx
NotePractice.R
TODO.md
authentication-pat.html
```

```
authentication-pat_files
basic-usage.png
copy_exercise_bash.qmd
file1.txt
git.txt
git.txt.1
git.txt.10
git.txt.2
git.txt.3
git.txt.4
git.txt.5
git.txt.6
git.txt.7
git.txt.8
git.txt.9
git_github_basicGit.html
git_github_basicGit.qmd
git_github_basicGit_files
git_hist.txt
git_setup.qmd
gitbasic_commit_push_pull.html
gitbasic_commit_push_pull.qmd
gitbasic_commit_push_pull_files
github_large_file_error.html
github_large_file_error.qmd
github_large_file_error_files
init_repo_files
pat_clone.qmd
practice_open_data.R
raw.githubusercontent.com
semiyari_hw.R
ssh_pat_2fa.qmd
```

- mv: Move/rename a file.

```
mv copy_exercise_bash.qmd rename_exercise_bash.qmd
ls
```

```
1_intro.html
1_intro.qmd
1_intro_files
2_update_r-rstudio_files
```

```
2_update_r_rstudio.pdf
2_update_r_rstudio.qmd
3_basic_bash.pdf
3_basic_bash.qmd
3_basic_bash.rmarkdown
4_vcs_git.pdf
4_vcs_git.qmd
5_git_setup.qmd
6_github_setu_files
6_github_setup.pdf
6_github_setup.qmd
6a_authentication_github_ssh.pdf
6a_authentication_github_ssh.qmd
6b_2fa.pdf
6b_2fa.qmd
6c_pat.pdf
6c_pat.qmd
7_git_basic.aux
7_git_basic.log
7_git_basic.pdf
7_git_basic.qmd
7_git_basic.tex
7_git_basic_files
8_git_github.pdf
8_git_github.qmd
8a1_ssh_pat.pdf
8a1_ssh_pat.qmd
8a2_init_repo.pdf
8a2_init_repo.qmd
8a_ssh_pat_files
8b_push.pdf
8b_push.qmd
8c_pull_fork.pdf
8c_pull_fork.qmd
8d_move_remove.pdf
8d_move_remove.qmd
9_practice.html
9_practice.qmd
9_practice_files
Authentication_github_PAT.qmd
BasicBash.qmd
Exercise-Bash.html
Exercise-Bash.qmd
```

```
Exercise-Bash_files
Git_1.jpg
Git_2.jpg
Git_3.jpg
MYGIT.txt
Makeup_Quiz_Git.docx
NotePractice.R
TODO.md
authentication-pat.html
authentication-pat_files
basic-usage.png
file1.txt
git.txt
git.txt.1
git.txt.10
git.txt.2
git.txt.3
git.txt.4
git.txt.5
git.txt.6
git.txt.7
git.txt.8
git.txt.9
git_github_basicGit.html
git_github_basicGit.qmd
git_github_basicGit_files
git_hist.txt
git_setup.qmd
gitbasic_commit_push_pull.html
gitbasic_commit_push_pull.qmd
gitbasic_commit_push_pull_files
github_large_file_error.html
github_large_file_error.qmd
github_large_file_error_files
init_repo_files
pat_clone.qmd
practice_open_data.R
raw.githubusercontent.com
rename_exercise_bash.qmd
semiyari_hw.R
ssh_pat_2fa.qmd
```

- rm: Remove a file.

```
rm rename_exercise_bash.qmd copy_exercise_bash.qmd
ls
```

rm: cannot remove 'copy_exercise_bash.qmd': No such file or directory
1_intro.html
1_intro.qmd
1_intro_files
2_update_r-rstudio_files
2_update_r_rstudio.pdf
2_update_r_rstudio.qmd
3_basic_bash.pdf
3_basic_bash.qmd
3_basic_bash.rmarkdown
4_vcs_git.pdf
4_vcs_git.qmd
5_git_setup.qmd
6_github_setu_files
6_github_setup.pdf
6_github_setup.qmd
6a_authentication_github_ssh.pdf
6a_authentication_github_ssh.qmd
6b_2fa.pdf
6b_2fa.qmd
6c_pat.pdf
6c_pat.qmd
7_git_basic.aux
7_git_basic.log
7_git_basic.pdf
7_git_basic.qmd
7_git_basic.tex
7_git_basic_files
8_git_github.pdf
8_git_github.qmd
8a1_ssh_pat.pdf
8a1_ssh_pat.qmd
8a2_init_repo.pdf
8a2_init_repo.qmd
8a_ssh_pat_files
8b_push.pdf
8b_push.qmd
8c_pull_fork.pdf
8c_pull_fork.qmd

```
8d_move_remove.pdf
8d_move_remove.qmd
9_practice.html
9_practice.qmd
9_practice_files
Authentication_github_PAT.qmd
BasicBash.qmd
Exercise-Bash.html
Exercise-Bash.qmd
Exercise-Bash_files
Git_1.jpg
Git_2.jpg
Git_3.jpg
MYGIT.txt
Makeup_Quiz_Git.docx
NotePractice.R
TODO.md
authentication-pat.html
authentication-pat_files
basic-usage.png
file1.txt
git.txt
git.txt.1
git.txt.10
git.txt.2
git.txt.3
git.txt.4
git.txt.5
git.txt.6
git.txt.7
git.txt.8
git.txt.9
git_github_basicGit.html
git_github_basicGit.qmd
git_github_basicGit_files
git_hist.txt
git_setup.qmd
gitbasic_commit_push_pull.html
gitbasic_commit_push_pull.qmd
gitbasic_commit_push_pull_files
github_large_file_error.html
github_large_file_error.qmd
github_large_file_error_files
```

```
init_repo_files
pat_clone.qmd
practice_open_data.R
raw.githubusercontent.com
semiyari_hw.R
ssh_pat_2fa.qmd
```

- `mkdir`: Make a directory/folder.

```
mkdir tempdir
ls
```

```
1_intro.html
1_intro.qmd
1_intro_files
2_update_r-rstudio_files
2_update_r_rstudio.pdf
2_update_r_rstudio.qmd
3_basic_bash.pdf
3_basic_bash.qmd
3_basic_bash.rmarkdown
4_vcs_git.pdf
4_vcs_git.qmd
5_git_setup.qmd
6_github_setu_files
6_github_setup.pdf
6_github_setup.qmd
6a_authentication_github_ssh.pdf
6a_authentication_github_ssh.qmd
6b_2fa.pdf
6b_2fa.qmd
6c_pat.pdf
6c_pat.qmd
7_git_basic.aux
7_git_basic.log
7_git_basic.pdf
7_git_basic.qmd
7_git_basic.tex
7_git_basic_files
8_git_github.pdf
8_git_github.qmd
8a1_ssh_pat.pdf
```

```
8a1_ssh_pat.qmd
8a2_init_repo.pdf
8a2_init_repo.qmd
8a_ssh_pat_files
8b_push.pdf
8b_push.qmd
8c_pull_fork.pdf
8c_pull_fork.qmd
8d_move_remove.pdf
8d_move_remove.qmd
9_practice.html
9_practice.qmd
9_practice_files
Authentication_github_PAT.qmd
BasicBash.qmd
Exercise-Bash.html
Exercise-Bash.qmd
Exercise-Bash_files
Git_1.jpg
Git_2.jpg
Git_3.jpg
MYGIT.txt
Makeup_Quiz_Git.docx
NotePractice.R
TODO.md
authentication-pat.html
authentication-pat_files
basic-usage.png
file1.txt
git.txt
git.txt.1
git.txt.10
git.txt.2
git.txt.3
git.txt.4
git.txt.5
git.txt.6
git.txt.7
git.txt.8
git.txt.9
git_github_basicGit.html
git_github_basicGit.qmd
git_github_basicGit_files
```

```
git_hist.txt
git_setup.qmd
gitbasic_commit_push_pull.html
gitbasic_commit_push_pull.qmd
gitbasic_commit_push_pull_files
github_large_file_error.html
github_large_file_error.qmd
github_large_file_error_files
init_repo_files
pat_clone.qmd
practice_open_data.R
raw.githubusercontent.com
semiyari_hw.R
ssh_pat_2fa.qmd
tempdir
```

- **rmdir**: Remove a directory/folder.

```
rmdir tempdir
ls
```

```
1_intro.html
1_intro.qmd
1_intro_files
2_update_r-rstudio_files
2_update_r_rstudio.pdf
2_update_r_rstudio.qmd
3_basic_bash.pdf
3_basic_bash.qmd
3_basic_bash.rmarkdown
4_vcs_git.pdf
4_vcs_git.qmd
5_git_setup.qmd
6_github_setu_files
6_github_setup.pdf
6_github_setup.qmd
6a_authentication_github_ssh.pdf
6a_authentication_github_ssh.qmd
6b_2fa.pdf
6b_2fa.qmd
6c_pat.pdf
6c_pat.qmd
```

```
7_git_basic.aux
7_git_basic.log
7_git_basic.pdf
7_git_basic.qmd
7_git_basic.tex
7_git_basic_files
8_git_github.pdf
8_git_github.qmd
8a1_ssh_pat.pdf
8a1_ssh_pat.qmd
8a2_init_repo.pdf
8a2_init_repo.qmd
8a_ssh_pat_files
8b_push.pdf
8b_push.qmd
8c_pull_fork.pdf
8c_pull_fork.qmd
8d_move_remove.pdf
8d_move_remove.qmd
9_practice.html
9_practice.qmd
9_practice_files
Authentication_github_PAT.qmd
BasicBash.qmd
Exercise-Bash.html
Exercise-Bash.qmd
Exercise-Bash_files
Git_1.jpg
Git_2.jpg
Git_3.jpg
MYGIT.txt
Makeup_Quiz_Git.docx
NotePractice.R
TODO.md
authentication-pat.html
authentication-pat_files
basic-usage.png
file1.txt
git.txt
git.txt.1
git.txt.10
git.txt.2
git.txt.3
```

```
git.txt.4
git.txt.5
git.txt.6
git.txt.7
git.txt.8
git.txt.9
git_github_basicGit.html
git_github_basicGit.qmd
git_github_basicGit_files
git_hist.txt
git_setup.qmd
gitbasic_commit_push_pull.html
gitbasic_commit_push_pull.qmd
gitbasic_commit_push_pull_files
github_large_file_error.html
github_large_file_error.qmd
github_large_file_error_files
init_repo_files
pat_clone.qmd
practice_open_data.R
raw.githubusercontent.com
semiyari_hw.R
ssh_pat_2fa.qmd
```

- Play Terminus for more practice.

How to move a file from one folder to another using a Bash command, you can use the `mv`

```
mv /path/to/source/file /path/to/destination/folder/
```

Example

let us add a file in our directory folder, I pick a name that show on type like `0_aaa.txt`

```
echo "Hi There" >> 0_aaa.txt
```

Now check your folder to see it is there

```
ls | head -n 3
```

```
0_aaa.txt
1_intro.html
1_intro.qmd
```

__ Let's print what is inside of the file

```
cat 0_aaa.txt
```

```
Hi There
```

- Now lets move it to t two folder back

```
mv ./0_aaa.txt ../..
```

- Now check if it is still in our directory. It should not be there, because we moved it

```
ls | head -n 3
```

```
1_intro.html
1_intro.qmd
1_intro_files
```

- Let's it is moved into folder back

```
ls ../.. | head -n 3
```

```
0_aaa.txt
AU - Shortcut.lnk
AU-DATA613
```

- Now let's put it back where it was before. So we have to move back two folder to pick it up

```
mv ../../0_aaa.txt ./
```

- check if it is in our directory

```
ls | head -n 3
```

```
0_aaa.txt
1_intro.html
1_intro.qmd
```

- Now remove the file

```
rm ./0_aaa.txt
```

- Check if it has been removed

```
ls | head -n 3
```

```
1_intro.html
1_intro.qmd
1_intro_files
```

GREP

String search with `grep`

- `grep` is a powerful command-line tool in Unix/Linux environments for searching through
  text using **regular expressions**.

  - `-r` recursive
  - `-n` line number
  - `-w` whole word only
  - `-e` pattern
  - `pdfgrep` (need to install separately) for searching text in PDFs.

Here's a quick guide to help you get started with `grep`. I have a file name called "git_hist.txt"

Search for a specific word in a file:

```
pwd
```

```
/c/Users/semiyari/Desktop/Personal/AU/DATA613/AU-DATA613/Git
```

```
cat git_hist.txt
```

```
A Short History of Git
As with many great things in life, Git began with a bit of creative destruction and fiery con
The Linux kernel is an open source software project of fairly large scope. During the early y
2002), changes to the software were passed around as patches and archived files. In 2002, the
In 2005, the relationship between the community that developed the Linux kernel and the comme
•   Speed
•   Simple design
•   Strong support for non-linear development (thousands of parallel branches)
•   Fully distributed
•   Able to handle large projects like the Linux kernel efficiently (speed and data size)
Since its birth in 2005, Git has evolved and matured to be easy to use and yet retain these
_file
```

```
grep "Git" git_hist.txt
```

```
A Short History of Git
As with many great things in life, Git began with a bit of creative destruction and fiery con
Since its birth in 2005, Git has evolved and matured to be easy to use and yet retain these
```

If Terminal doesn't return any result

- Double check the command. Make sure file exists in your directory and also the file contains the word that you are searching.

```
grep "tig" git_hist.txt   # There will be no match
```

Also, by default, **grep** is case sensitive. If your search contains lowercase or uppercase letters you want to use **-i** option

```
grep "git" git_hist.txt   # There will be no match
```

```
grep -i "git" git_hist.txt   #not-case sensative
```

```
A Short History of Git
As with many great things in life, Git began with a bit of creative destruction and fiery con
Since its birth in 2005, Git has evolved and matured to be easy to use and yet retain these
```

- Sometimes, there might be non-printable characters in the file that are not visible. You can try using tools like `cat -v` to display non-printable characters:

```
cat -v git_hist.txt
```

```
A Short History of Git^M
As with many great things in life, Git began with a bit of creative destruction and fiery co
The Linux kernel is an open source software project of fairly large scope. During the early
In 2005, the relationship between the community that developed the Linux kernel and the comme
M-bM-^@M-"  Speed^M
M-bM-^@M-"  Simple design^M
M-bM-^@M-"  Strong support for non-linear development (thousands of parallel branches)^M
M-bM-^@M-"  Fully distributed^M
M-bM-^@M-"  Able to handle large projects like the Linux kernel efficiently (speed and data s
Since its birth in 2005, Git has evolved and matured to be easy to use and yet retain these
_file^M
```

Search recursively in directories:

- This command restricts the search to files with the `.txt` extension within the documents directory and its subdirectories.

```
grep -r "Git" --include="*.txt"
```

```
git.txt:Git is a fast, scalable, distributed revision control system with an
git.txt:commands.  The link:user-manual.html[Git User's Manual] has a more
git.txt:page to learn what commands Git offers.  You can learn more about
git.txt:individual Git commands with "git help command".  linkgit:gitcli[7]
git.txt:A formatted and hyperlinked copy of the latest Git documentation
git.txt:    Prints the Git suite version that the 'git' program came from.
git.txt:    available commands are printed. If a Git command is named this
git.txt:    Path to wherever your core Git programs are installed.
git.txt:    Print the path, without trailing slash, where Git's HTML
git.txt:    this version of Git and exit.
git.txt:    version of Git are installed and exit.
git.txt:    Do not pipe Git output into a pager.
git.txt:top-level of the working tree are discovered), and tells Git
git.txt:should tell Git where the top-level of the working tree is,
git.txt:    Set the Git namespace.  See linkgit:gitnamespaces[7] for more
git.txt:    Do not use replacement refs to replace Git objects. See
git.txt:We divide Git into high level ("porcelain") commands and low level
```

```
git.txt:Although Git includes its
git.txt:The following documentation pages are guides about Git concepts.
git.txt:Git uses a simple text format to store customizations that are per
git.txt:Any Git command accepting any <object> can also use the following
git.txt:Various Git commands pay attention to environment variables and change
git.txt:The Git Repository
git.txt:These environment variables apply to 'all' core Git commands. Nb: it
git.txt:Git so take care if using a foreign front-end.
git.txt:    Due to the immutable nature of Git objects, old objects can be
git.txt:    of Git object directories which can be used to search for Git
git.txt:    Set the Git namespace; see linkgit:gitnamespaces[7] for details.
git.txt:    set, it is a list of directories that Git should not chdir up
git.txt:    command line or in the environment.  Normally, Git has to read
git.txt:    can add an empty entry to the list to tell Git that the
git.txt:    directory, Git tries to find such a directory in the parent
git.txt:    can be set to true to tell Git not to stop at filesystem
git.txt:Git Commits
git.txt:Git Diffs
git.txt:    value passed on the Git diff command line.
git.txt:    program named by it is called to generate diffs, and Git
git.txt:    to an empty string or to the value "cat", Git will not launch
git.txt:    It is used by several Git commands when, on interactive mode,
git.txt:    This environment variable overrides the configured Git editor
git.txt:    If this environment variable is set, it overrides Git's autodetection
git.txt:    tells Git not to verify the SSL certificate when fetching or
git.txt:    If this environment variable is set, then Git commands which need to
git.txt:    not set, Git will choose buffered or record-oriented flushing
git.txt:and lower than 10 (strictly) then Git will interpret this
git.txt:(starting with a '/' character), Git will interpret this
git.txt:    time of each Git command.
git.txt:    working directory after Git has completed its setup phase.
git.txt:and lower than 10 (strictly) then Git will interpret this
git.txt:(starting with a '/' character), Git will interpret this
git.txt:`af_unix:[<socket_type>:]<absolute-pathname>`, Git will try
git.txt:    By default, when tracing is activated, Git redacts the values of
git.txt:    Setting this Boolean environment variable to true will cause Git to treat all
git.txt:    literal paths to Git (e.g., paths previously given to you by
git.txt:    Setting this Boolean environment variable to true will cause Git to treat all
git.txt:    Setting this Boolean environment variable to true will cause Git to treat all
git.txt:    Setting this Boolean environment variable to true will cause Git to treat all
git.txt:    over lists of refs. Normally Git will try to include any such
git.txt:    When loading a commit object from the commit-graph, Git performs an
git.txt:    If this Boolean environment variable is set to false, Git will complete any requ
```

git.txt: inherit them, possibly blocking regular Git operations). The
git.txt:link:user-manual.html#git-concepts[Git concepts chapter of the
git.txt:A Git project normally consists of a working directory with a ".git"
git.txt:using Git. The following is probably more detail than necessary
git.txt:The link:user-manual.html#git-concepts[Git concepts chapter of the
git.txt:introductions to the underlying Git architecture.
git.txt:link:technical/api-index.html[Git API documentation].
git.txt:Git was started by Linus Torvalds, and is currently maintained by Junio
git.txt:C Hamano. Numerous contributions have come from the Git mailing list
git.txt:Report bugs to the Git mailing list <git@vger.kernel.org> where the
git.txt:the Git Security mailing list <git-security@googlegroups.com>.
git.txt:linkgit:gitcli[7], link:user-manual.html[The Git User's Manual],
git_hist.txt:A Short History of Git
git_hist.txt:As with many great things in life, Git began with a bit of creative destruction
git_hist.txt:Since its birth in 2005, Git has evolved and matured to be easy to use and yet
MYGIT.txt:Git is a fast, scalable, distributed revision control system with an
MYGIT.txt:commands. The link:user-manual.html[Git User's Manual] has a more
MYGIT.txt:page to learn what commands Git offers. You can learn more about
MYGIT.txt:individual Git commands with "git help command". linkgit:gitcli[7]
MYGIT.txt:A formatted and hyperlinked copy of the latest Git documentation
MYGIT.txt: Prints the Git suite version that the 'git' program came from.
MYGIT.txt: available commands are printed. If a Git command is named this
MYGIT.txt: Path to wherever your core Git programs are installed.
MYGIT.txt: Print the path, without trailing slash, where Git's HTML
MYGIT.txt: this version of Git and exit.
MYGIT.txt: version of Git are installed and exit.
MYGIT.txt: Do not pipe Git output into a pager.
MYGIT.txt:top-level of the working tree are discovered), and tells Git
MYGIT.txt:should tell Git where the top-level of the working tree is,
MYGIT.txt: Set the Git namespace. See linkgit:gitnamespaces[7] for more
MYGIT.txt: Do not use replacement refs to replace Git objects. See
MYGIT.txt:We divide Git into high level ("porcelain") commands and low level
MYGIT.txt:Although Git includes its
MYGIT.txt:The following documentation pages are guides about Git concepts.
MYGIT.txt:Git uses a simple text format to store customizations that are per
MYGIT.txt:Any Git command accepting any <object> can also use the following
MYGIT.txt:Various Git commands pay attention to environment variables and change
MYGIT.txt:The Git Repository
MYGIT.txt:These environment variables apply to 'all' core Git commands. Nb: it
MYGIT.txt:Git so take care if using a foreign front-end.
MYGIT.txt: Due to the immutable nature of Git objects, old objects can be
MYGIT.txt: of Git object directories which can be used to search for Git
MYGIT.txt: Set the Git namespace; see linkgit:gitnamespaces[7] for details.

MYGIT.txt: set, it is a list of directories that Git should not chdir up
MYGIT.txt: command line or in the environment. Normally, Git has to read
MYGIT.txt: can add an empty entry to the list to tell Git that the
MYGIT.txt: directory, Git tries to find such a directory in the parent
MYGIT.txt: can be set to true to tell Git not to stop at filesystem
MYGIT.txt:Git Commits
MYGIT.txt:Git Diffs
MYGIT.txt: value passed on the Git diff command line.
MYGIT.txt: program named by it is called to generate diffs, and Git
MYGIT.txt: to an empty string or to the value "cat", Git will not launch
MYGIT.txt: It is used by several Git commands when, on interactive mode,
MYGIT.txt: This environment variable overrides the configured Git editor
MYGIT.txt: If this environment variable is set, it overrides Git's autodetection
MYGIT.txt: tells Git not to verify the SSL certificate when fetching or
MYGIT.txt: If this environment variable is set, then Git commands which need to
MYGIT.txt: not set, Git will choose buffered or record-oriented flushing
MYGIT.txt:and lower than 10 (strictly) then Git will interpret this
MYGIT.txt:(starting with a '/' character), Git will interpret this
MYGIT.txt: time of each Git command.
MYGIT.txt: working directory after Git has completed its setup phase.
MYGIT.txt:and lower than 10 (strictly) then Git will interpret this
MYGIT.txt:(starting with a '/' character), Git will interpret this
MYGIT.txt:`af_unix:[<socket-type>:]<absolute-pathname>`, Git will try
MYGIT.txt: By default, when tracing is activated, Git redacts the values of
MYGIT.txt: Setting this Boolean environment variable to true will cause Git to treat all
MYGIT.txt: literal paths to Git (e.g., paths previously given to you by
MYGIT.txt: Setting this Boolean environment variable to true will cause Git to treat all
MYGIT.txt: Setting this Boolean environment variable to true will cause Git to treat all
MYGIT.txt: Setting this Boolean environment variable to true will cause Git to treat all
MYGIT.txt: over lists of refs. Normally Git will try to include any such
MYGIT.txt: When loading a commit object from the commit-graph, Git performs an
MYGIT.txt: If this Boolean environment variable is set to false, Git will complete any reque
MYGIT.txt: inherit them, possibly blocking regular Git operations). The
MYGIT.txt:link:user-manual.html#git-concepts[Git concepts chapter of the
MYGIT.txt:A Git project normally consists of a working directory with a ".git"
MYGIT.txt:using Git. The following is probably more detail than necessary
MYGIT.txt:The link:user-manual.html#git-concepts[Git concepts chapter of the
MYGIT.txt:introductions to the underlying Git architecture.
MYGIT.txt:link:technical/api-index.html[Git API documentation].
MYGIT.txt:Git was started by Linus Torvalds, and is currently maintained by Junio
MYGIT.txt:C Hamano. Numerous contributions have come from the Git mailing list
MYGIT.txt:Report bugs to the Git mailing list <git@vger.kernel.org> where the
MYGIT.txt:the Git Security mailing list <git-security@googlegroups.com>.

MYGIT.txt:linkgit:gitcli[7], link:user-manual.html[The Git User's Manual],
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Git is a fast, scalable, dist
raw.githubusercontent.com/git/git/master/Documentation/git.txt:commands. The link:user-manu
raw.githubusercontent.com/git/git/master/Documentation/git.txt:page to learn what commands G
raw.githubusercontent.com/git/git/master/Documentation/git.txt:individual Git commands with
raw.githubusercontent.com/git/git/master/Documentation/git.txt:A formatted and hyperlinked c
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Prints the Git suite version
raw.githubusercontent.com/git/git/master/Documentation/git.txt: available commands are print
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Path to wherever your core G
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Print the path, without trai
raw.githubusercontent.com/git/git/master/Documentation/git.txt: this version of Git and exit
raw.githubusercontent.com/git/git/master/Documentation/git.txt: version of Git are installed
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Do not pipe Git output into
raw.githubusercontent.com/git/git/master/Documentation/git.txt:top-level of the working tree
raw.githubusercontent.com/git/git/master/Documentation/git.txt:should tell Git where the top-
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Set the Git namespace. See
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Do not use replacement refs
raw.githubusercontent.com/git/git/master/Documentation/git.txt:We divide Git into high level
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Although Git includes its
raw.githubusercontent.com/git/git/master/Documentation/git.txt:The following documentation p
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Git uses a simple text format
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Any Git command accepting any
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Various Git commands pay atte
raw.githubusercontent.com/git/git/master/Documentation/git.txt:The Git Repository
raw.githubusercontent.com/git/git/master/Documentation/git.txt:These environment variables a
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Git so take care if using a f
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Due to the immutable nature
raw.githubusercontent.com/git/git/master/Documentation/git.txt: of Git object directories wh
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Set the Git namespace; see l
raw.githubusercontent.com/git/git/master/Documentation/git.txt: set, it is a list of directo
raw.githubusercontent.com/git/git/master/Documentation/git.txt: command line or in the envir
raw.githubusercontent.com/git/git/master/Documentation/git.txt: can add an empty entry to th
raw.githubusercontent.com/git/git/master/Documentation/git.txt: directory, Git tries to find
raw.githubusercontent.com/git/git/master/Documentation/git.txt: can be set to true to tell G
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Git Commits
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Git Diffs
raw.githubusercontent.com/git/git/master/Documentation/git.txt: value passed on the Git diff
raw.githubusercontent.com/git/git/master/Documentation/git.txt: program named by it is calle
raw.githubusercontent.com/git/git/master/Documentation/git.txt: to an empty string or to the
raw.githubusercontent.com/git/git/master/Documentation/git.txt: It is used by several Git co
raw.githubusercontent.com/git/git/master/Documentation/git.txt: This environment variable ov
raw.githubusercontent.com/git/git/master/Documentation/git.txt: If this environment variable
raw.githubusercontent.com/git/git/master/Documentation/git.txt: tells Git not to verify the

```
raw.githubusercontent.com/git/git/master/Documentation/git.txt: If this environment variable
raw.githubusercontent.com/git/git/master/Documentation/git.txt: not set, Git will choose buf:
raw.githubusercontent.com/git/git/master/Documentation/git.txt:and lower than 10 (strictly)
raw.githubusercontent.com/git/git/master/Documentation/git.txt:(starting with a '/' character
raw.githubusercontent.com/git/git/master/Documentation/git.txt: time of each Git command.
raw.githubusercontent.com/git/git/master/Documentation/git.txt: working directory after Git
raw.githubusercontent.com/git/git/master/Documentation/git.txt:and lower than 10 (strictly)
raw.githubusercontent.com/git/git/master/Documentation/git.txt:(starting with a '/' character
raw.githubusercontent.com/git/git/master/Documentation/git.txt:`af_unix:[<socket_type>:]<abso
raw.githubusercontent.com/git/git/master/Documentation/git.txt: By default, when tracing is a
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Setting this Boolean environm
raw.githubusercontent.com/git/git/master/Documentation/git.txt: literal paths to Git (e.g., j
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Setting this Boolean environm
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Setting this Boolean environm
raw.githubusercontent.com/git/git/master/Documentation/git.txt: Setting this Boolean environm
raw.githubusercontent.com/git/git/master/Documentation/git.txt: over lists of refs. Normally
raw.githubusercontent.com/git/git/master/Documentation/git.txt: When loading a commit object
raw.githubusercontent.com/git/git/master/Documentation/git.txt: If this Boolean environment v
raw.githubusercontent.com/git/git/master/Documentation/git.txt: inherit them, possibly block:
raw.githubusercontent.com/git/git/master/Documentation/git.txt:link:user-manual.html#git-cond
raw.githubusercontent.com/git/git/master/Documentation/git.txt:A Git project normally consist
raw.githubusercontent.com/git/git/master/Documentation/git.txt:using Git.  The following is |
raw.githubusercontent.com/git/git/master/Documentation/git.txt:The link:user-manual.html#git-
raw.githubusercontent.com/git/git/master/Documentation/git.txt:introductions to the underlyi
raw.githubusercontent.com/git/git/master/Documentation/git.txt:link:technical/api-index.html
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Git was started by Linus Torva
raw.githubusercontent.com/git/git/master/Documentation/git.txt:C Hamano. Numerous contributio
raw.githubusercontent.com/git/git/master/Documentation/git.txt:Report bugs to the Git mailing
raw.githubusercontent.com/git/git/master/Documentation/git.txt:the Git Security mailing list
raw.githubusercontent.com/git/git/master/Documentation/git.txt:linkgit:gitcli[7], link:user-n
```

- There is no restriction

```
grep -r "Semiyari"
```

```
1_intro.html:  <p class="subtitle">Hamid Semiyari</p>
1_intro.qmd:subtitle: "Hamid Semiyari"
2_update_r_rstudio.qmd:subtitle: "Hamid Semiyari"
3_basic_bash.qmd:subtitle: "Hamid Semiyari"
3_basic_bash.qmd:grep -r "Semiyari"
3_basic_bash.qmd:grep -ri "Semiyari"    # Not a case sensetive
3_basic_bash.rmarkdown:subtitle: "Hamid Semiyari"
```

```
3_basic_bash.rmarkdown:grep -r "Semiyari"
3_basic_bash.rmarkdown:grep -ri "Semiyari"     # Not a case sensetive
4_vcs_git.qmd:subtitle: "Hamid Semiyari"
5_git_setup.qmd:subtitle: "Hamid Semiyari"
5_git_setup.qmd:    -   `git config --global user.name "Hamid Semiyari"`
6a_authentication_github_ssh.qmd:subtitle: "Hamid Semiyari"
6b_2fa.qmd:subtitle: "Hamid Semiyari"
6c_pat.qmd:subtitle: "Hamid Semiyari"
6_github_setup.qmd:subtitle: "Hamid Semiyari"
6_github_setup.qmd:Hi Semiyari! You've successfully authenticated, but GitHub does not provic
6_github_setup.qmd:Hi Semiyari! You've successfully authenticated, but GitHub does not provic
7_git_basic.qmd:subtitle: "Hamid Semiyari"
7_git_basic.tex:\subtitle{Hamid Semiyari}
8a2_init_repo.qmd:subtitle: "Hamid Semiyari"
8b_push.qmd:subtitle: "Hamid Semiyari"
8c_pull_fork.qmd:subtitle: "Hamid Semiyari"
8d_move_remove.qmd:subtitle: "Hamid Semiyari"
authentication-pat.html:<div class="sourceCode cell-code" id="cb5"><pre class="sourceCode bas
authentication-pat.html:<li><strong>But you most likely will get the following error after ru
authentication-pat.html:<span id="cb13-2"><a href="#cb13-2" aria-hidden="true" tabindex="-1">
BasicBash.qmd:author: "Semiyari"
git_github_basicGit.html:<div class="sourceCode cell-code" id="cb5"><pre class="sourceCode ba
git_github_basicGit.html:<li><strong>But you most likely will get the following error after i
git_github_basicGit.html:<span id="cb13-2"><a href="#cb13-2" aria-hidden="true" tabindex="-1
git_github_basicGit.qmd:                git clone https://github.com/Semiyari/test.git
git_github_basicGit.qmd:-   **But you most likely will get the following error after running
git_github_basicGit.qmd:fatal: Authentication failed for 'https://github.com/Semiyari/test.gi
git_setup.qmd:    - `git config --global user.name "Hamid Semiyari"`
pat_clone.qmd:                git clone https://github.com/Semiyari/test.git
pat_clone.qmd:-   **But you most likely will get the following error after running the code**
pat_clone.qmd:fatal: Authentication failed for 'https://github.com/Semiyari/test.git/'
```

```
grep -r "semiyari"   # lower case 's'
```

```
.Rhistory:setwd("C:/Users/semiyari/Desktop/Personal/AU/DATA613/Spring24/Week1")
3_basic_bash.qmd:    cd c:Users/semiyari/Desktop/Personal/AU/DATA613/Spring24/Week1
3_basic_bash.qmd:grep -r "semiyari"   # lower case 's'
3_basic_bash.rmarkdown:    cd c:Users/semiyari/Desktop/Personal/AU/DATA613/Spring24/Week1
3_basic_bash.rmarkdown:grep -r "semiyari"   # lower case 's'
5_git_setup.qmd:    -   `git config --global user.email  semiyari@american.edu`/
5_git_setup.qmd:This will open our default editor to edit all the global setting. If you type
6a_authentication_github_ssh.qmd:Your identification has been saved in C:/Users/semiyari/.ssh
```

```
6a_authentication_github_ssh.qmd:Your public key has been saved in C:/Users/semiyari/.ssh/id_
6_github_setup.qmd:Add correct host key in C:\\Users\\semiyari/.ssh/known_hosts to get rid o
6_github_setup.qmd:Offending RSA key in C:\\Users\\semiyari/.ssh/known_hosts:1
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/s
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/s
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/s
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/s
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/s
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/s
7_git_basic.log:))) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-scri
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/s
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/ams
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/amste
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/amsge
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/ar
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/ams
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsfonts/ar
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsfonts/amsi
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/iftex/i
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/unicode-mat
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/l3backend/l3
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/unicode-math/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/l3packages/xp
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/l3packages/
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/fontspec/fo
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/fontspec/font
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/fontenc
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/fontspec/fo
7_git_base.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/ts1enc.
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/unicode-math/
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/upquote/up
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/textcom
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/etoolbox/eto
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/mi
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/mi
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/xcolor/xc
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics-cfg/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics-def/
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/ma
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/dv
```

```
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/xcolor/svg
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/xcolor/x11r
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tools/long
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/booktabs/bool
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tools/arra
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tools/calc
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/mdwtools/fc
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/gr
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/grap
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/trig
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics-c
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/cap
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/capt
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/capt
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/ltcap
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/float/floa
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/subca
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tcolorbox/t
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/basiclaye
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/util
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/util
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/basiclaye
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/utilit
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/utilit
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/systeml
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/systeml
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/systeml
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/systeml
7_git_basic.log:))) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/sys
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/syste
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/bas
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/math/pg
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/math/
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/mat
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
```

```
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:))) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/mod
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/modul
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/compat
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/compat
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tools/ver
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/environ/env
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/trimspaces/t
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tcolorbox/tc
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/frontend
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/fro
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/librar
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/modules
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/fronter
7_git_basic.log:))) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tikzfill/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tikzfill/tik
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tikzfill/t
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tcolorbox/
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tcolorbox/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pdfcol/pdfcol
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/ltxcmds/lt
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/infwarer
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/bookmark/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/hype
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/kvsetkeys/kv
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/kvdefine
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pdfescape
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pdftexcmds/
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hycolor/hy
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/auxhook/aux
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/na
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/refcount/refc
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/gettitles
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/kvoptions/kvo
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/pd1e
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/intcalc/i
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/puen
```

```
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/url/url.sty
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/bitset/bits
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/bigintcalc/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/atbegshi
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/hxet
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/stringenc/s
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/rerunfilechec
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/atveryer
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/uniquecou
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/bookmark/bk
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/mt-
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/lm/omllmm.fd
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsfonts/umsa
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/r
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsfonts/umsl
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/r
8b_push.qmd:git remote set-url origin https://semiyari:ghp_dwjKZ79Em7zOb9zay2jyEAE1MmFVlM2nf5
8c_pull_fork.qmd:    semiyari@AU302413 MINGW64 ~/practice (main)
8c_pull_fork.qmd:    semiyari@AU302413 MINGW64 ~/practice (branch_1)
9_practice.html:To github.com:semiyarih/Spring24.git
9_practice.qmd:To github.com:semiyarih/Spring24.git
Authentication_github_PAT.qmd:Your identification has been saved in C:/Users/semiyari/.ssh/id
Authentication_github_PAT.qmd:Your public key has been saved in C:/Users/semiyari/.ssh/id_ed2
github_large_file_error.html:To github.com:semiyarih/DATA613.git
github_large_file_error.html:error: failed to push some refs to 'github.com:semiyarih/DATA613
github_large_file_error.qmd:To github.com:semiyarih/DATA613.git
github_large_file_error.qmd:error: failed to push some refs to 'github.com:semiyarih/DATA613
git_github_basicGit.html:<p>Hi semiyari! You've successfully authenticated, but GitHub does
git_github_basicGit.qmd: Hi semiyari! You've successfully authenticated, but GitHub does not
git_setup.qmd:    - `git config --global user.email  semiyari@american.edu`/
git_setup.qmd:        This will open our default editor to edit all the global setting. If yo
```

```bash
grep -ri "Semiyari"     # Not a case sensetive
```

```
.Rhistory:setwd("C:/Users/semiyari/Desktop/Personal/AU/DATA613/Spring24/Week1")
1_intro.html:  <p class="subtitle">Hamid Semiyari</p>
1_intro.qmd:subtitle: "Hamid Semiyari"
2_update_r_rstudio.qmd:subtitle: "Hamid Semiyari"
3_basic_bash.qmd:subtitle: "Hamid Semiyari"
3_basic_bash.qmd:    cd c:Users/semiyari/Desktop/Personal/AU/DATA613/Spring24/Week1
3_basic_bash.qmd:grep -r "Semiyari"
3_basic_bash.qmd:grep -r "semiyari"    # lower case 's'
```

```
3_basic_bash.qmd:grep -ri "Semiyari"    # Not a case sensetive
3_basic_bash.rmarkdown:subtitle: "Hamid Semiyari"
3_basic_bash.rmarkdown:    cd c:Users/semiyari/Desktop/Personal/AU/DATA613/Spring24/Week1
3_basic_bash.rmarkdown:grep -r "Semiyari"
3_basic_bash.rmarkdown:grep -r "semiyari"   # lower case 's'
3_basic_bash.rmarkdown:grep -ri "Semiyari"    # Not a case sensetive
4_vcs_git.qmd:subtitle: "Hamid Semiyari"
5_git_setup.qmd:subtitle: "Hamid Semiyari"
5_git_setup.qmd:    -   `git config --global user.name "Hamid Semiyari"`
5_git_setup.qmd:    -   `git config --global user.email  semiyari@american.edu`/
5_git_setup.qmd:This will open our default editor to edit all the global setting. If you type
6a_authentication_github_ssh.qmd:subtitle: "Hamid Semiyari"
6a_authentication_github_ssh.qmd:Your identification has been saved in C:/Users/semiyari/.ssh
6a_authentication_github_ssh.qmd:Your public key has been saved in C:/Users/semiyari/.ssh/id_
6b_2fa.qmd:subtitle: "Hamid Semiyari"
6c_pat.qmd:subtitle: "Hamid Semiyari"
6_github_setup.qmd:subtitle: "Hamid Semiyari"
6_github_setup.qmd:Hi Semiyari! You've successfully authenticated, but GitHub does not provi
6_github_setup.qmd:Add correct host key in C:\\Users\\semiyari/.ssh/known_hosts to get rid o
6_github_setup.qmd:Offending RSA key in C:\\Users\\semiyari/.ssh/known_hosts:1
6_github_setup.qmd:Hi Semiyari! You've successfully authenticated, but GitHub does not provi
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/
7_git_basic.log:))) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-scri
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script/
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/koma-script
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/ams
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/amste
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/amsge
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/am
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsmath/ams
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsfonts/am
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsfonts/amsi
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/iftex/i
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/unicode-mat
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/l3backend/l3l
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/unicode-math/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/l3packages/xp
```

```
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/l3packages,
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/fontspec/fc
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/fontspec/font
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/fontenc
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/fontspec/fc
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/ts1enc.d
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/unicode-math/
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/upquote/up
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/textcomp
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype,
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/etoolbox/eto
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/mi
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/mi
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/xcolor/xc
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics-cfg,
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics-def,
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/ma
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/dv
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/xcolor/svg
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/xcolor/x11
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tools/long
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/booktabs/boo
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tools/array
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tools/calc
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/mdwtools/fo
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/g
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/gra
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics/tri
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/graphics-c
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/cap
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/capt
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/capt
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/ltcap
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/float/floa
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/caption/subca
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tcolorbox/t
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/basiclaye
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/util
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/util
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/basiclaye
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/utiliti
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/utiliti
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/system
```

```
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/systeml
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/systeml
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/systeml
7_git_basic.log:))) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/sys
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/syste
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basi
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/math/pg
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/math/
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/math
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/basic
7_git_basic.log:))) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/mod
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/modul
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/compati
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/compati
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tools/verb
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/environ/env
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/trimspaces/tr
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tcolorbox/tcl
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pgf/frontendl
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/fron
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/librari
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/modules
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pgf/fronter
7_git_basic.log:))) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tikzfill/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tikzfill/tikz
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tikzfill/ti
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tcolorbox/
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/tcolorbox/
```

```
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/pdfcol/pdfcol
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/ltxcmds/lt
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/infwarerr
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/bookmark/b
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/hype
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/kvsetkeys/kvs
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/kvdefinel
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pdfescape
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/pdftexcmds,
7_git_basic.log:)) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hycolor/hy
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/auxhook/aux
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/na
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/refcount/refc
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/gettitles
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/kvoptions/kvo
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/pd1e
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/intcalc/i
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/puer
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/url/url.sty
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/bitset/bits
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/bigintcalc/
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/atbegshi
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/hyperref/hxet
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/stringenc/s
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/rerunfilechec
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/base/atveryen
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/generic/uniquecou
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/bookmark/bk
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/mt-
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/lm/omllmm.fd
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsfonts/umsa
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/m
7_git_basic.log:(c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/amsfonts/umsb
7_git_basic.log:) (c:/Users/semiyari/AppData/Roaming/TinyTeX/texmf-dist/tex/latex/microtype/m
7_git_basic.qmd:subtitle: "Hamid Semiyari"
7_git_basic.tex:\subtitle{Hamid Semiyari}
8a2_init_repo.qmd:subtitle: "Hamid Semiyari"
8b_push.qmd:subtitle: "Hamid Semiyari"
8b_push.qmd:git remote set-url origin https://semiyari:ghp_dwjKZ79Em7zOb9zay2jyEAE1MmFVlM2nf5
8c_pull_fork.qmd:subtitle: "Hamid Semiyari"
8c_pull_fork.qmd:    semiyari@AU302413 MINGW64 ~/practice (main)
8c_pull_fork.qmd:    semiyari@AU302413 MINGW64 ~/practice (branch_1)
8d_move_remove.qmd:subtitle: "Hamid Semiyari"
```

```
9_practice.html:To github.com:semiyarih/Spring24.git
9_practice.qmd:To github.com:semiyarih/Spring24.git
authentication-pat.html:<div class="sourceCode cell-code" id="cb5"><pre class="sourceCode bas
authentication-pat.html:<li><strong>But you most likely will get the following error after ru
authentication-pat.html:<span id="cb13-2"><a href="#cb13-2" aria-hidden="true" tabindex="-1">
Authentication_github_PAT.qmd:Your identification has been saved in C:/Users/semiyari/.ssh/id
Authentication_github_PAT.qmd:Your public key has been saved in C:/Users/semiyari/.ssh/id_ed2
BasicBash.qmd:author: "Semiyari"
github_large_file_error.html:To github.com:semiyarih/DATA613.git
github_large_file_error.html:error: failed to push some refs to 'github.com:semiyarih/DATA613
github_large_file_error.qmd:To github.com:semiyarih/DATA613.git
github_large_file_error.qmd:error: failed to push some refs to 'github.com:semiyarih/DATA613
git_github_basicGit.html:<p>Hi semiyari! You've successfully authenticated, but GitHub does r
git_github_basicGit.html:<div class="sourceCode cell-code" id="cb5"><pre class="sourceCode ba
git_github_basicGit.html:<li><strong>But you most likely will get the following error after r
git_github_basicGit.html:<span id="cb13-2"><a href="#cb13-2" aria-hidden="true" tabindex="-1"
git_github_basicGit.qmd: Hi semiyari! You've successfully authenticated, but GitHub does not
git_github_basicGit.qmd:            git clone https://github.com/Semiyari/test.git
git_github_basicGit.qmd:-   **But you most likely will get the following error after running
git_github_basicGit.qmd:fatal: Authentication failed for 'https://github.com/Semiyari/test.gi
git_setup.qmd:    - `git config --global user.name "Hamid Semiyari"`
git_setup.qmd:    - `git config --global user.email  semiyari@american.edu`/
git_setup.qmd:           This will open our default editor to edit all the global setting. If yo
pat_clone.qmd:            git clone https://github.com/Semiyari/test.git
pat_clone.qmd:-   **But you most likely will get the following error after running the code**
pat_clone.qmd:fatal: Authentication failed for 'https://github.com/Semiyari/test.git/'
```

Show line numbers with matching lines:

```
grep -n "Git" git_hist.txt
```

```
1:A Short History of Git
2:As with many great things in life, Git began with a bit of creative destruction and fiery e
10:Since its birth in 2005, Git has evolved and matured to be easy to use and yet retain thes
```

Search for lines matching multiple patterns (logical OR):

```
grep -e "Speed" -e "Fully distributed" git_hist.txt
```

- Speed
- Fully distributed

```
grep -e "speed" -e "Fully distributed" -e "since" git_hist.txt  # both "s" are lowercase
```

- Fully distributed
- Able to handle large projects like the Linux kernel efficiently (speed and data size)

  - Does not matter were you put -i for the case sensitivity

```
grep -ie "speed" -e "Fully distributed" -ie "since" git_hist.txt  # both "s" are lowercase
```

- Speed
- Fully distributed
- Able to handle large projects like the Linux kernel efficiently (speed and data size)
Since its birth in 2005, Git has evolved and matured to be easy to use and yet retain these

```
grep -e "speed" -e "Fully distributed" -ie "since" git_hist.txt  # both "s" are lowercase
```

- Speed
- Fully distributed
- Able to handle large projects like the Linux kernel efficiently (speed and data size)
Since its birth in 2005, Git has evolved and matured to be easy to use and yet retain these

Search for lines matching all patterns (logical AND):

```
grep "develope" git_hist.txt | grep "linus"
```

```
grep "develope" git_hist.txt | grep -i "linus"
```

In 2005, the relationship between the community that developed the Linux kernel and the comme

A few shortcut:

1. Type `explorer` in Bash/Terminal to open "File Explorer". Or on keyboard hold window button and click `E`
2. Type a few letters on Terminal/Bash and then click on `tab` button to get the possible match. (Once for terminal-Twice for Bash)
3. To interrupt the current command press `CTRL+C` .
4. Type `clear` to clear the Terminal/Bash page
5. Type `exit` and press ENTER
6. Use `alt+shift+R` to open terminal-pane

- **What is difference between >> and > in Bash/Terminal?**

This symbol `>` overwrites the file if it exists or creates it if it doesn't exist.

```
echo "The `>` overwrites the file if it exists or creates it if it doesn't exist." > file1.t
```

```
/c/RBUILD~1/4.4/usr/bin/bash: command substitution: line 1: syntax error near unexpected tok
/c/RBUILD~1/4.4/usr/bin/bash: command substitution: line 1: `>'
```

```
cat file1.txt
```

```
The  overwrites the file if it exists or creates it if it doesn't exist.
```

```
echo "This will overwrite the file and what we had before has been replaced with this line" 
```

```
cat file1.txt
```

```
This will overwrite the file and what we had before has been replaced with this line
```

This `>>` is used to append to a file.

```
echo "This symbol \">>\" is used to append to a file." >> file1.txt
```

if you run `cat file1.txt` you will see both lines are in file1.txt

```
cat file1.txt
```

```
This will overwrite the file and what we had before has been replaced with this line
This symbol ">>" is used to append to a file.
```