

# Git/GitHub2

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DATA SCIENCE 613

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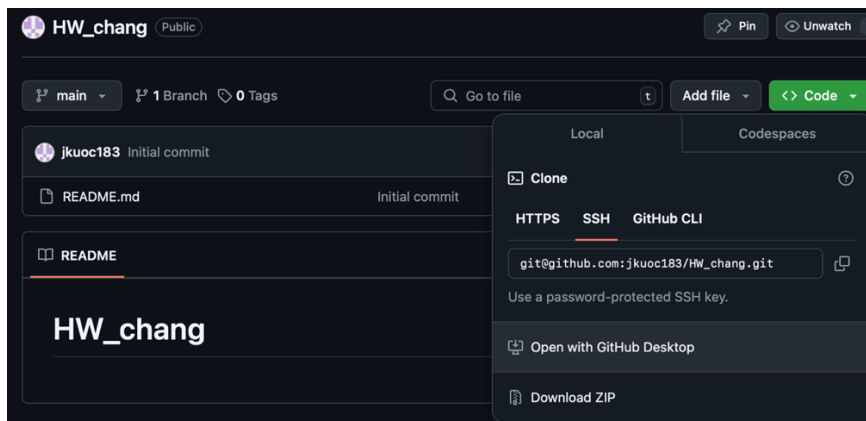
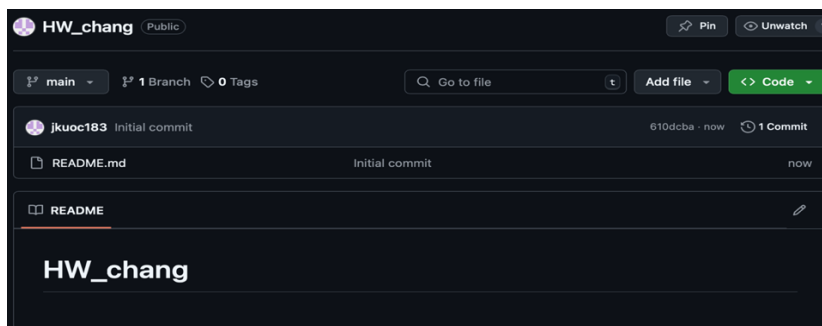
LINK: [https://github.com/jkuoc183/HW\\_chang](https://github.com/jkuoc183/HW_chang)

## Assignment Instructions: GitHub and RScript

### Task 1: Create a GitHub Repository

- Create a new repository in your GitHub account and call it `HW_name`.
  - For example, if your name is John Doe, you should name your repository, `HW_doe`.
- Clone the repository onto your local machine using the Git Bash terminal or any other Git client.

SSH: `git@github.com:jkuoc183/HW_chang.git`



```
Last login: Thu Feb  6 19:21:32 on console
[j.k.@MacBookAir ~ % git clone git@github.com:jkuoc183/HW_chang.git
Cloning into 'HW_chang'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.
```

```

2017: command not found: HW_chang
[j.k.@MacBookAir ~ % cd HW_chang
[j.k.@MacBookAir HW_chang % git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
j.k.@MacBookAir HW_chang %

```

## Task 2: Add Homework "Git/GitHub 1" Solution

- Copy your **Homework solution** (from last week) to the local working directory of your newly cloned repository.

```

j.k.@MacBookAir ~ % cp Git-and-GitHub-Assignment/HW.md HW_chang/

[j.k.@MacBookAir ~ % cd HW_chang
[j.k.@MacBookAir HW_chang % ls -l
total 16
-rw-r--r--  1 j.k.  staff   17 Feb  9 14:51 HW.md
-rw-r--r--  1 j.k.  staff   10 Feb  7 23:45 README.md
-rw-r--r--  1 j.k.  staff    0 Feb  9 13:23 file.txt

```

- Stage the file by running:

```
git add <filename>
```

```
[j.k.@MacBookAir HW_chang % git add HW.md
```

- Commit the changes using an appropriate message such as:

```
git commit -m "Add Homework 1 solution"
```

```

j.k.@MacBookAir HW_chang % git commit -m "Add Homework 1 solution"
[main 11921e6] Add Homework 1 solution
 1 file changed, 1 insertion(+)
 create mode 100644 HW.md

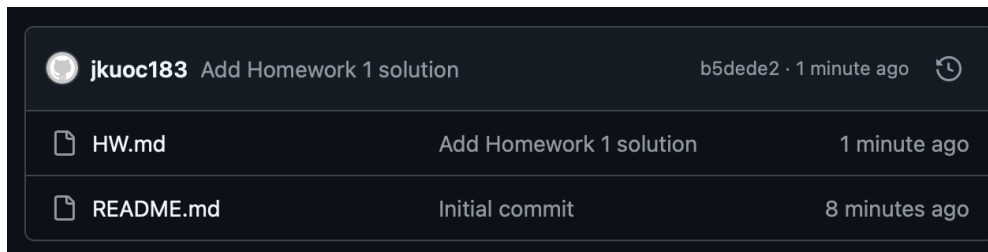
```

- Push the changes to your GitHub repository:

`git push`

```
j.k.@MacBookAir HW_chang % git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
(use "git push" to publish your local commits)

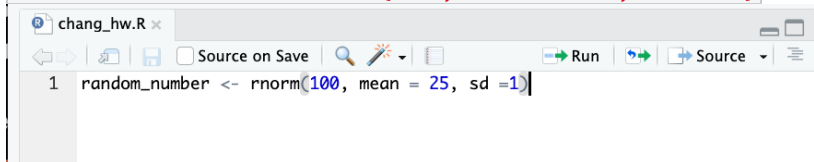
nothing to commit, working tree clean
j.k.@MacBookAir HW_chang % git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 294 bytes | 294.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:jkuoc183/HW_chang.git
   e9d080f..b5dede2  main -> main
```



### Task 3: Generate 100 Random Normal Numbers

- Open an R script in your local directory and name it `name_hw.R` (for example, if your name is John Doe, you should name the file `doe_hw.R`).
- In this script, generate 100 random numbers from a normal distribution with a mean of 25 and a standard deviation of 1:

```
random_numbers <- rnorm(100, mean = 25, sd = 1)
```



File name = chang\_hw.R

- Stage and commit the script with the message:

```
j.k.@MacBookAir ~ % mv chang_hw.R ~/HW_chang/

j.k.@MacBookAir ~ % cd HW_chang
j.k.@MacBookAir HW_chang % ls -l
total 24
-rw-r--r--  1 j.k.  staff   17 Feb 11 21:49 HW.md
-rw-r--r--  1 j.k.  staff   10 Feb 11 21:46 README.md
-rw-r--r--  1 j.k.  staff   45 Feb 11 21:55 chang_hw.R
```

```
git add <script_name>
```


```
-rw-r--r--@ 1 j.k.  staff  45 Feb 11 21:55 chan  
[j.k.@MacBookAir HW_chang % git add chang_hw.R  
[j.k.@MacBookAir HW_chang % git commit -m "Create
```

```
git commit -m "Create 100 random normal numbers with mean 25 and  
standard deviation 1"
```

```
[j.k.@MacBookAir HW_chang % git commit -m "Create 100 random normal numbers with  
mean 25 and standard deviation 1"  
[main 00dd095] Create 100 random normal numbers with mean 25 and standard deviat  
ion 1  
1 file changed, 1 insertion(+)  
create mode 100644 chang_hw.R  
[j.k.@MacBookAir HW_chang % git status  
On branch main  
Your branch is ahead of 'origin/main' by 1 commit.  
(use "git push" to publish your local commits)  
  
nothing to commit, working tree clean
```


```
git push
```


```
[j.k.@MacBookAir HW_chang % git push  
Enumerating objects: 4, done.  
Counting objects: 100% (4/4), done.  
Delta compression using up to 8 threads  
Compressing objects: 100% (2/2), done.  
Writing objects: 100% (3/3), 384 bytes | 384.00 KiB/s, done.  
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)  
To github.com:jkuoc183/HW_chang.git  
b5dede2..00dd095  main -> main
```



jkuoc183

Create 100 random normal numbers with mea... 00dd095 · 1 minute ago






HW.md

Add Homework 1 solution


12 minutes ago



README.md

Initial commit

20 minutes ago



chang\_hw.R

Create 100 random normal num...

1 minute ago

## Task 4: Compute the Mean

- In the same R script, compute the mean of the 100 random numbers:

```
mean_value <- mean(random_numbers)
```

```
chang_hw.R* x  
← → | | Source on Save | 🔍 | | | Run  
1 random_number <- rnorm(100, mean = 25, sd = 1)  
2 mean_value <- mean(random_number)
```

- Stage and commit the updated script with the message:

```
git add <script_name>
```

```
[j.k.@MacBookAir HW_chang % git add chang_hw.R
```

```
git commit -m "Compute the average"
```

```
[j.k.@MacBookAir HW_chang % git commit -m "Compute the average"
[main d5439e2] Compute the average
 1 file changed, 2 insertions(+), 1 deletion(-)
[j.k.@MacBookAir HW_chang % git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
```

```
git push
```

```
nothing to commit, working tree clean
[j.k.@MacBookAir HW_chang % git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 312 bytes | 312.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:jkuoc183/HW_chang.git
 00dd095..d5439e2  main -> main
```

File	Commit Message	Time Ago
HW.md	Add Homework 1 solution	22 minutes ago
README.md	Initial commit	30 minutes ago
chang_hw.R	Compute the average	6 minutes ago

## Task 5: Compute the Standard Deviation

- Compute the standard deviation of the vector:

```
sd_value <- sd(random_numbers)
```

```
chang_hw.R* x
Source on Save Run
1 random_number <- rnorm(100, mean = 25, sd = 1)
2 mean_value <- mean(random_number)
3 sd_value <- sd(random_number)
```

- Stage and commit the script with the message:

```
git add <script_name>
```

```
git commit -m "Compute standard deviation"
```






this image shows git add and git commit -m

```
j.k.@MacBookAir HW_chang % git add chang_hw.R
[j.k.@MacBookAir HW_chang % git commit -m "Compute standard deviation"
[main 4eaa742] Compute standard deviation
 1 file changed, 2 insertions(+), 1 deletion(-)
j.k.@MacBookAir HW_chang % git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
```

```
git push
```

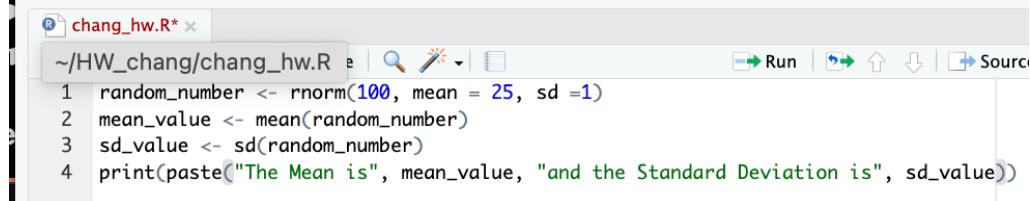
```
j.k.@MacBookAir HW_chang % git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 327 bytes | 327.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:jkuoc183/HW_chang.git
   d5439e2..4eaa742  main -> main
```

 <b>jkuoc183</b>	Compute standard deviation	4eaa742 · 2 minutes ago	
	HW.md	Add Homework 1 solution	27 minutes ago
	README.md	Initial commit	34 minutes ago
	chang_hw.R	Compute standard deviation	2 minutes ago

## Task 6: Print the Mean and Standard Deviation

- Finally, modify your script to print a message showing the computed mean and standard deviation:

```
print(paste("The Mean is", mean_value, "and the Standard Deviation is", sd_value))
```

A screenshot of an R script editor window titled 'chang\_hw.R'. The window shows four lines of R code: 1. random\_number <- rnorm(100, mean = 25, sd = 1), 2. mean\_value <- mean(random\_number), 3. sd\_value <- sd(random\_number), and 4. print(paste("The Mean is", mean\_value, "and the Standard Deviation is", sd\_value)). The editor has a toolbar with 'Run', 'Source', and other icons.

```
1 random_number <- rnorm(100, mean = 25, sd = 1)
2 mean_value <- mean(random_number)
3 sd_value <- sd(random_number)
4 print(paste("The Mean is", mean_value, "and the Standard Deviation is", sd_value))
```

- Stage and commit the script with the message:

```
git add <script_name>
```

```
d5439e2..4eaa742 main -> main
[j.k.@MacBookAir HW_chang % git add chang_hw.R
```

```
git commit -m "Print the mean and SD"
```






```
[j.k.@MacBookAir HW_chang % git commit -m "Print the mean and SD"
[main 219e8ae] Print the mean and SD
 1 file changed, 2 insertions(+), 1 deletion(-)
[j.k.@MacBookAir HW_chang % git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
(use "git push" to publish your local commits)

nothing to commit, working tree clean
```

```
git push
```

```
[j.k.@MacBookAir HW_chang % git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 381 bytes | 381.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:jkuoc183/HW_chang.git
 4eaa742..219e8ae main -> main
```



 <b>jkuoc183</b> Print the mean and SD	219e8ae · 1 minute ago	
 HW.md	Add Homework 1 solution	31 minutes ago
 README.md	Initial commit	39 minutes ago
 chang_hw.R	Print the mean and SD	1 minute ago

### Commits

main ⌵ 🔍 All users

Commits on Feb 11, 2025

- Print the mean and SD**  
jkuoc183 committed 1 minute ago
- Compute standard deviation**  
jkuoc183 committed 7 minutes ago
- Compute the average**  
jkuoc183 committed 16 minutes ago
- Create 100 random normal numbers with mean 25 and standard deviation 1**  
jkuoc183 committed 20 minutes ago
- Add Homework 1 solution**  
jkuoc183 committed 31 minutes ago
- Initial commit**  
jkuoc183 authored 39 minutes ago Verified

```
j.k.@MacBookAir HW_chang % git log
commit 219e8aed39e987c91b2ab68f85d8617e5e1441b9 (HEAD -> main, origin/main, origin/HEAD)
Author: jkuoc183 <jackkuochang.com>
Date: Tue Feb 11 22:21:27 2025 -0500

    Print the mean and SD

commit 4eaa742bfe5ce4cc1906fb5e6e7650f58f45c888
Author: jkuoc183 <jackkuochang.com>
Date: Tue Feb 11 22:15:36 2025 -0500

    Compute standard deviation

commit d5439e2b5b2b4f6cff9689e20110903e19a5e26c
Author: jkuoc183 <jackkuochang.com>
Date: Tue Feb 11 22:06:46 2025 -0500

    Compute the average

commit 00dd095e95172521794f56cf72f71145b1a6fb99
Author: jkuoc183 <jackkuochang.com>
Date: Tue Feb 11 22:02:05 2025 -0500
```

These are all the changes for the commits, another way is to use `git log/ git log -oneline`.