

# Computer Programming II Lab

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# 助教們

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# Outline

- 版本控制系統 - Git
  - Git
  - GitHub
  - 基本操作
  - 參考資料
- LeetCode

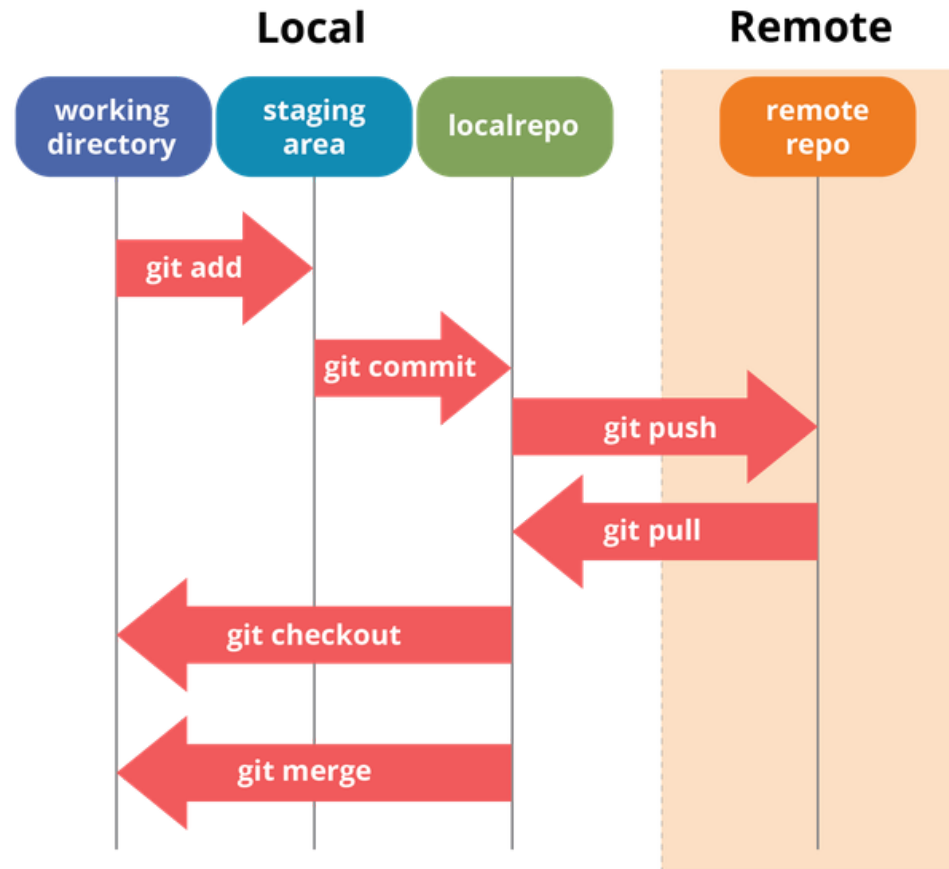
# 版本控制系統 - Git



# Git

- Git 可以把檔案的狀態作為更新歷史記錄保存起來。因此可以把編輯過的檔案復原到以前的狀態，也可以顯示編輯過內容的差異。
- 當有人想將編輯過的舊檔案上傳到伺服器、覆蓋其他人的最新檔案時，系統會發出警告，因此可以避免在無意中覆蓋他人的編輯內容。

# Git



# 安裝 Git

- Windows

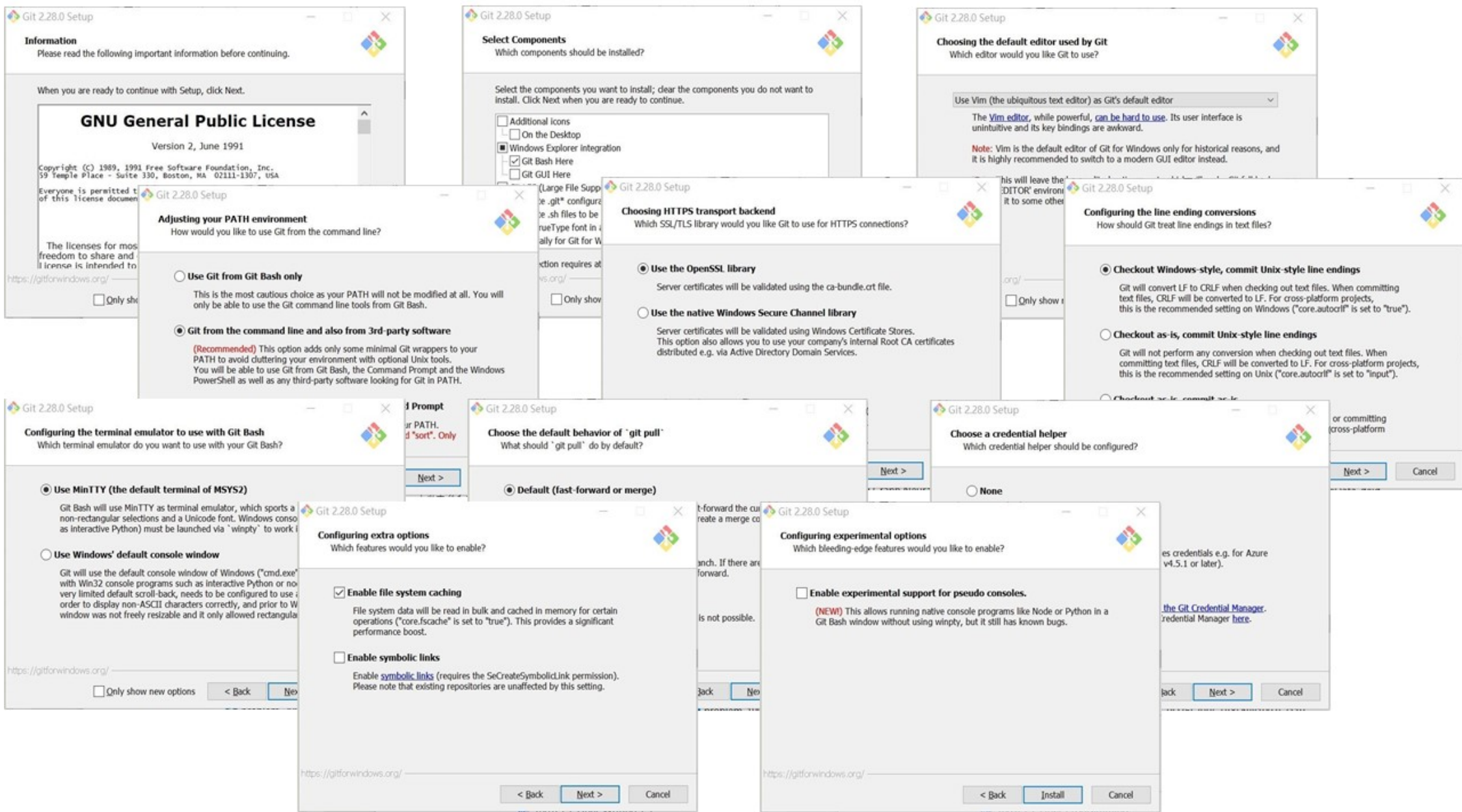
<https://git-scm.com/downloads>

- MacOS

```
brew install git
```

- Linux (Ex. Ubuntu)

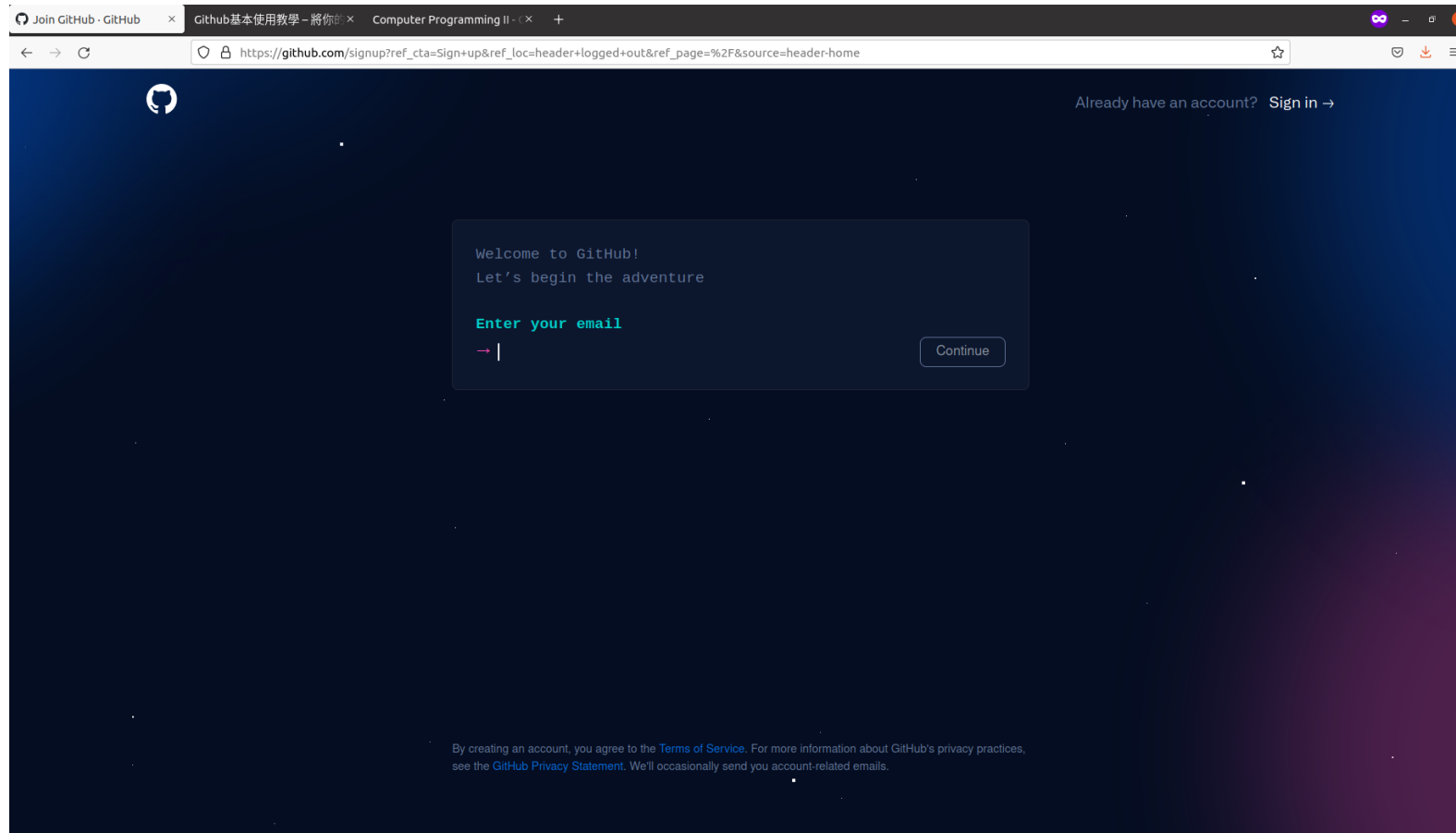
```
apt-get install git
```



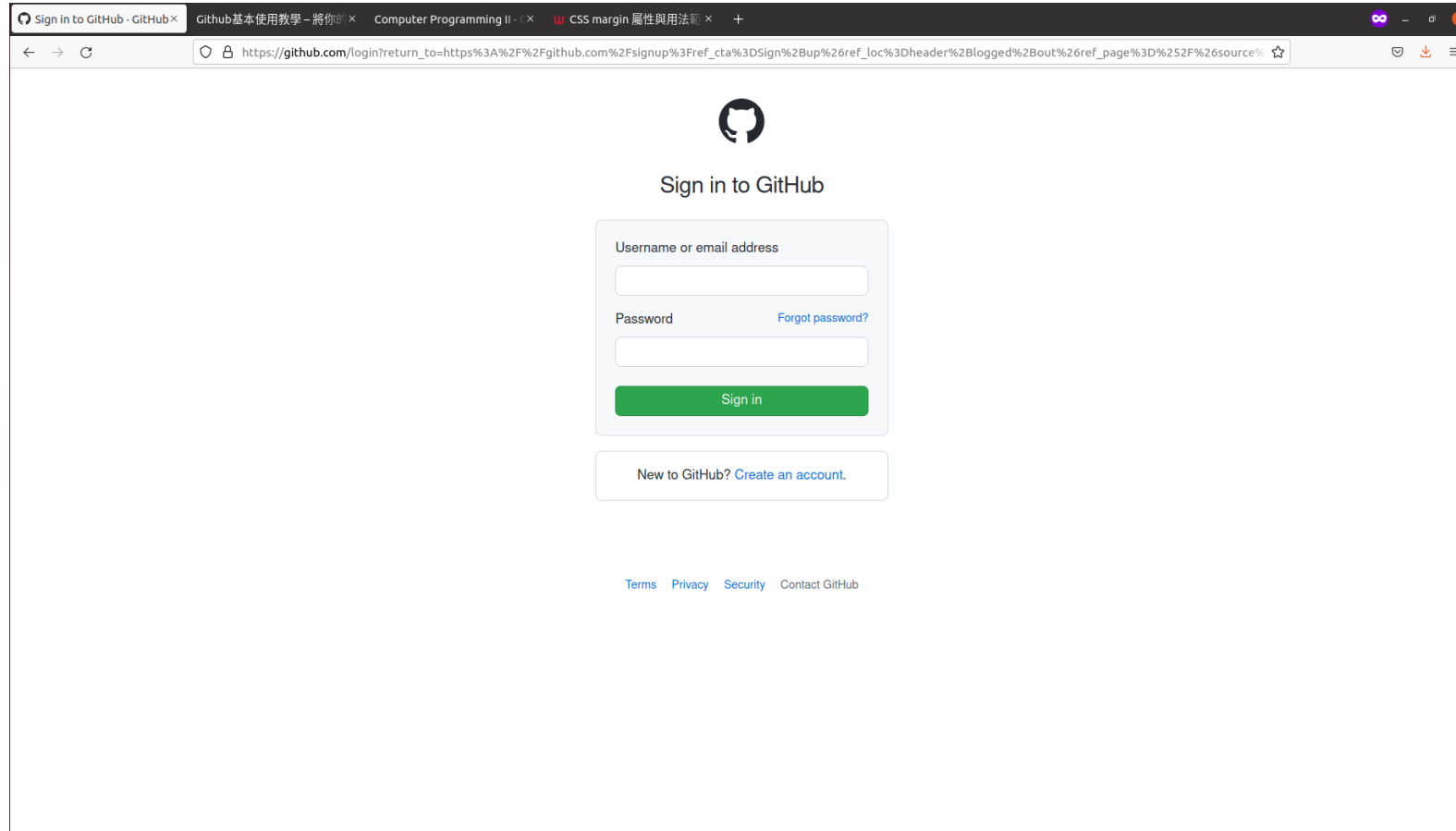


# 在 GitHub 註冊帳號

<https://github.com/>



## 登入你的 GitHub 帳號



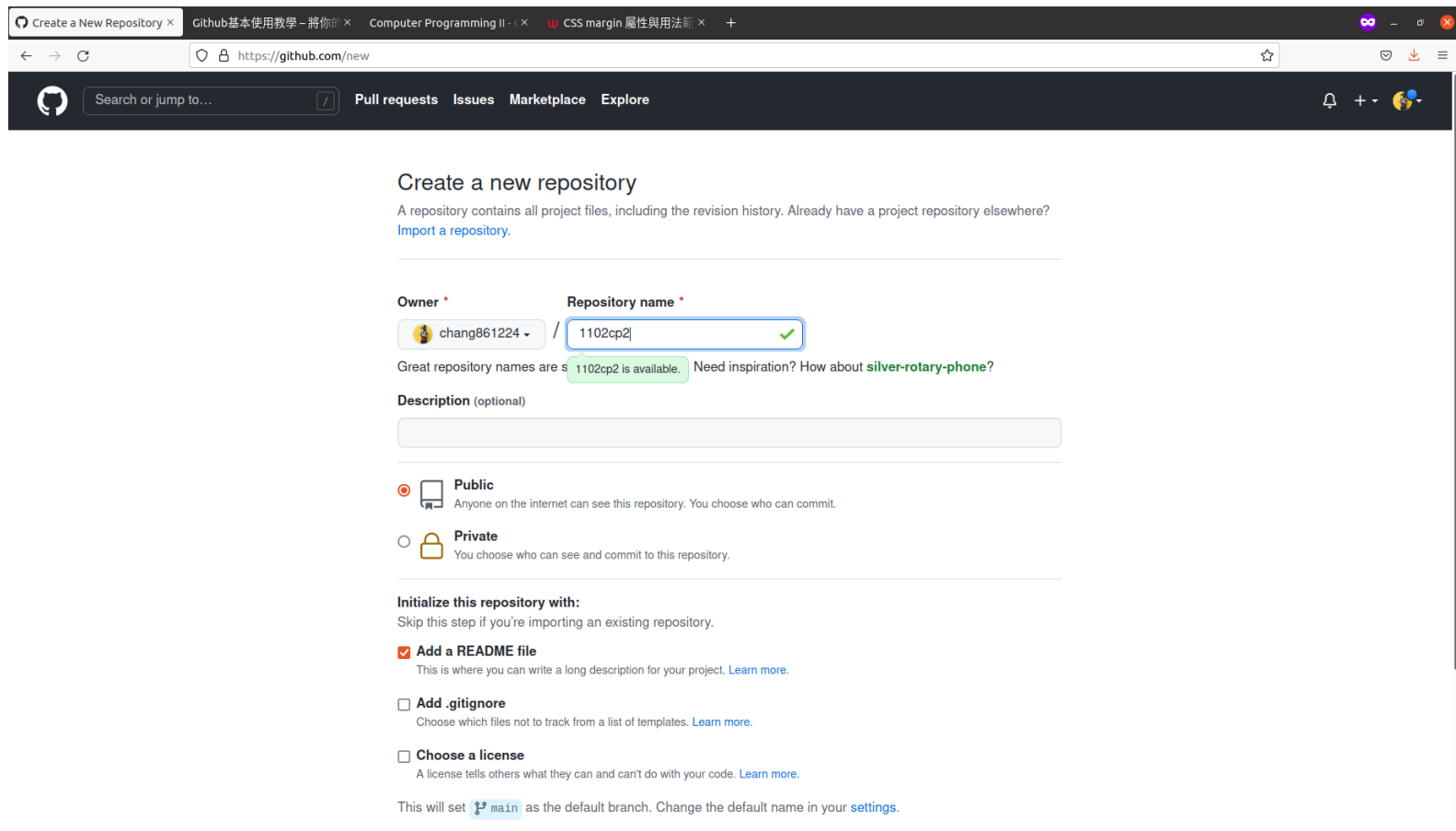
# 設定你的 Local 端配置

```
git config --global user.name <your_name>
git config --global user.email <your_email>
```

```
(^o^) [cch] [~/Documents/1102cp2_lab/Lab_20220217] $ git config --global user.name "Chi-Hung Chang"
(^o^) [cch] [~/Documents/1102cp2_lab/Lab_20220217] $ git config --global user.email "chihung861224@gmail.com"
(^o^) [cch] [~/Documents/1102cp2_lab/Lab_20220217] $ git config --list
user.name=Chi-Hung Chang
user.email=chihung861224@gmail.com
core.repositoryformatversion=0
core.filemode=true
core.bare=false
core.logallrefupdates=true
remote.origin.url=git@github.com:chang861224/1102cp2_lab.git
remote.origin.fetch=+refs/heads/*:refs/remotes/origin/*
branch.main.remote=origin
branch.main.merge=refs/heads/main
(^o^) [cch] [~/Documents/1102cp2_lab/Lab_20220217] $
```

# 基本操作


- 在自己的 GitHub 上面創建一個資料夾



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner <sup>\*</sup> / Repository name <sup>\*</sup>

 chang861224 / 1102cp2 ✓

Great repository names are s 1102cp2 is available. Need inspiration? How about [silver-rotary-phone](#)?

Description (optional)

☒ **Public**  
Anyone on the internet can see this repository. You choose who can commit.


☐ **Private**  
You choose who can see and commit to this repository.

**Initialize this repository with:**  
Skip this step if you're importing an existing repository.

☒ **Add a README file**  
This is where you can write a long description for your project. [Learn more.](#)

☐ **Add .gitignore**  
Choose which files not to track from a list of templates. [Learn more.](#)

☐ **Choose a license**  
A license tells others what they can and can't do with your code. [Learn more.](#)

This will set  **main** as the default branch. Change the default name in your [settings](#).

# 基本操作

- 將 GitHub 上面的資料夾下載到自己的電腦 Local 端

```
git clone <repository_url>
```

```
(^o^) [cch] [~/Documents] $ git clone git@github.com:chang861224/1102cp2.git
Cloning into '1102cp2'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
(^o^) [cch] [~/Documents] $ ls -l
drwxrwxr-x  3 cch cch  4096 Feb 16 21:45 1102cp2
drwxrwxr-x  5 cch cch  4096 Feb 16 16:27 1102cp2_lab
(^o^) [cch] [~/Documents] $
```

# 基本操作

- 進入資料夾，查看資料夾狀態

```
cd <repository_name>  
git status
```

```
(^o^) [cch] [~/Documents] $ cd 1102cp2  
(^o^) [cch] [~/Documents/1102cp2] $ vim test.c  
(^o^) [cch] [~/Documents/1102cp2] $ git status  
On branch main  
Your branch is up to date with 'origin/main'.  
  
Untracked files:  
  (use "git add <file>..." to include in what will be committed)  
    test.c  
  
nothing added to commit but untracked files present (use "git add" to track)  
(^o^) [cch] [~/Documents/1102cp2] $
```

# 基本操作

- 新增修改的檔案

```
git add <filenames>
```

```
(^o^) [cch] [~/Documents/1102cp2] $ git add test.c
(^o^) [cch] [~/Documents/1102cp2] $ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   test.c

(^o^) [cch] [~/Documents/1102cp2] $
```

# 基本操作

- 新增 commit, 然後上傳 GitHub

```
git commit -m <your_commits>
git push origin main
```

```
(^o^) [cch] [~/Documents/1102cp2] $ git commit -m "add hellow world"
[main cc1632b] add hellow world
1 file changed, 6 insertions(+)
create mode 100644 test.c
(^o^) [cch] [~/Documents/1102cp2] $ git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 355 bytes | 355.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To github.com:chang861224/1102cp2.git
ac0ce95..cc1632b  main -> main
```



# 基本操作

- 查看版本歷史紀錄

```
git log
```

# 參考資料

- [1.6 開始 - 初次設定 Git](#)
- [連猴子都能懂的 Git 入門指南](#)
- [Git 與 GitHub 版本控制基本指令與操作入門教學](#)
- [30 天精通 Git 版本控管](#)
- [Git Tutorial](#)

# LeetCode