

哈尔滨工业大学计算机科学与技术学院
2023 年秋季学期《开源软件开发实践》

Lab 1: Git 实战

姓名	学号	联系方式
雷文俊	2023140022	514530706@qq.com/13394013296

目 录

1 实验要求.....	1
2 安装 Git	1
2.1 本地机器上安装 git	1
2.2 申请 github 帐号.....	1
3 Git 操作过程.....	2
3.1 实验场景(1): 仓库创建与提交	2
3.2 实验场景(2): 分支管理	5
3.3 实验场景(3): 在线 Git 练习	9
4 小结	13

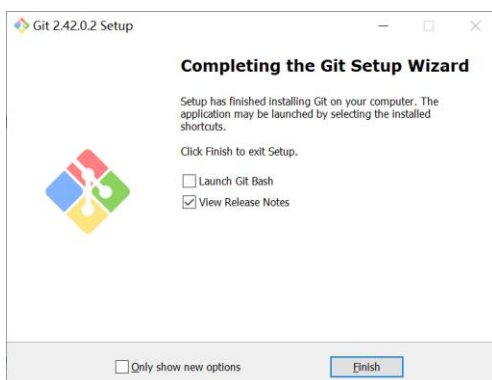
1 实验要求

- § 熟练掌握 git 的基本指令和分支管理指令;
- § 掌握 git 支持软件配置管理的核心机理;
- § 在实践项目中使用 git/github 管理自己的项目源代码

2 安装 Git

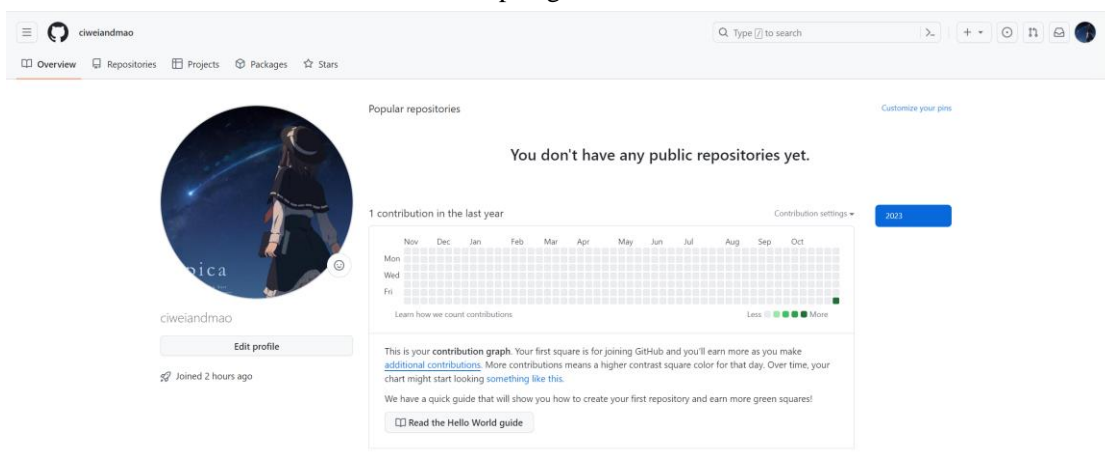
2.1 本地机器上安装 git

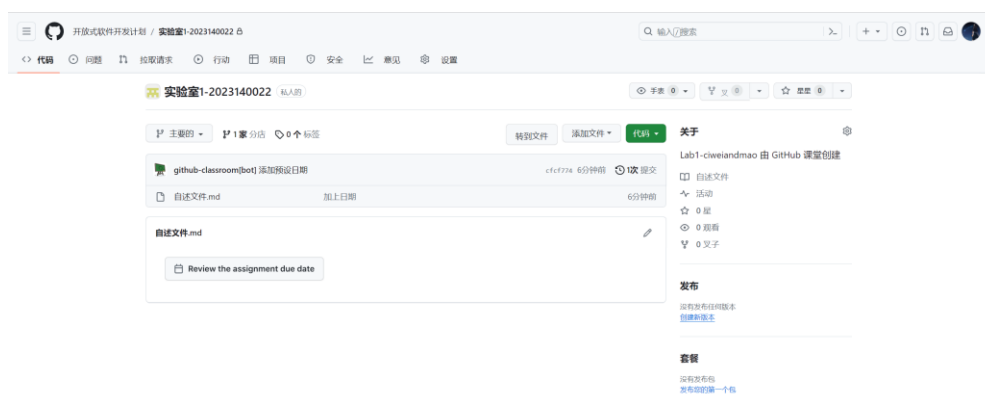
Git 的版本号: 2.42.0.2



2.2 申请 github 帐号

账号名称: ciweindmao, URL 地址: <https://github.com/OSSDP/Lab1-2023140022>





3 Git 操作过程

3.1 实验场景(1): 仓库创建与提交

1.1 在进行每次 git 操作之前, 随时查看工作区、暂存区、git 仓库 的状态, 确认项目里的各文件当前处于什么状态;

命令: git status

```
MINGW64/c:/Users/ciweiandmao
ciweiandmao@DESKTOP-BQCNH1S MINGW64 ~ (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   source/repos/Project9/Project9/BST.cpp
    new file:   source/repos/Project9/Project9/Project9.vcxproj
    new file:   source/repos/Project9/Project9/Project9.vcxproj.filters
    new file:   source/repos/Project9/Project9/Project9.vcxproj.user
    new file:   source/repos/Project9/Project9/input.txt
    new file:   source/repos/Project9/Project9/input1.txt
    new file:   source/repos/Project9/Project9/x64/Debug/BST.obj
    new file:   source/repos/Project9/Project9/x64/Debug/MinTree.obj
    new file:   source/repos/Project9/Project9/x64/Debug/Project9.Build.CppC
lean.log
    new file:   source/repos/Project9/Project9/x64/Debug/Project9.exe.recipe
    new file:   source/repos/Project9/Project9/x64/Debug/Project9.ilk
    new file:   source/repos/Project9/Project9/x64/Debug/Project9.log
    new file:   source/repos/Project9/Project9/x64/Debug/Project9.tlog/CL.co
mand.1.tlog
    new file:   source/repos/Project9/Project9/x64/Debug/Project9.tlog/CL.re
```

1.2 本地初始化一个 git 仓库, 将自己开发的某个软件的源代码文件加入进去, 纳入 git 管理;

命令: git init

git add "C:\Users\ciweiandmao\source\repos\Project9\Project9"

```
ciweiandmao@DESKTOP-BQCNH1S MINGW64 ~ (master)
$ git add "C:\Users\ciweiandmao\source\repos\Project9\Project9"
```

1.3 提交; 命令: git commit -m "Initial commit"

```

MINGW64: c:\Users\ciweianmao
ciweianmao@DESKTOP-BQCNH15 MINGW64 ~ (master)
$ git commit -m "Initial commit"
[master (root-commit) 2df2139] Initial commit
23 files changed, 554 insertions(+)
create mode 100644 source/repos/Project9/Project9/BST.cpp
create mode 100644 source/repos/Project9/Project9/Project9.vcxproj
create mode 100644 source/repos/Project9/Project9/Project9.vcxproj.filters
create mode 100644 source/repos/Project9/Project9/Project9.vcxproj.user
create mode 100644 source/repos/Project9/Project9/input.txt
create mode 100644 source/repos/Project9/Project9/input1.txt
create mode 100644 source/repos/Project9/Project9/x64/Debug/BST.obj
create mode 100644 source/repos/Project9/Project9/x64/Debug/MinTree.obj
create mode 100644 source/repos/Project9/Project9/x64/Debug/Project9.Build.Cpp
create mode 100644 source/repos/Project9/Project9/x64/Debug/Project9.exe.recipe
create mode 100644 source/repos/Project9/Project9/x64/Debug/Project9.ilc
create mode 100644 source/repos/Project9/Project9/x64/Debug/Project9.log
create mode 100644 source/repos/Project9/Project9/x64/Debug/Project9.tlog/CL.re
create mode 100644 source/repos/Project9/Project9/x64/Debug/Project9.tlog/CL.wr
create mode 100644 source/repos/Project9/Project9/x64/Debug/Project9.tlog/Proje

```

1.4 查看上次提交之后都有哪些文件修改、具体修改内容是什么：

命令：git status

git diff

```

C:\Users\ciweianmao>git status
warning: could not open directory 'Application Data/': Permission denied
warning: could not open directory 'Cookies/': Permission denied
warning: could not open directory 'Local Settings/': Permission denied
warning: could not open directory 'My Documents/': Permission denied
warning: could not open directory 'NetHood/': Permission denied
warning: could not open directory 'PrintHood/': Permission denied
warning: could not open directory 'Recent/': Permission denied
warning: could not open directory 'SendTo/': Permission denied
warning: could not open directory 'Templates/': Permission denied
warning: could not open directory '[开始] 菜单/': Permission denied
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   source/repos/Project9/Project9/BST.cpp
        modified:   source/repos/Project9/Project9/input.txt
        modified:   source/repos/Project9/Project9/input1.txt

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .7d9b55297a162003a6d46e85fb151995daed6138
        .Ld2VirtualBox/
        .android/
        .bash_history
        .config/
        .cursor/
        .dotnet/
        .gitconfig
        .m2/

C:\Users\ciweianmao>git diff
diff --git a/source/repos/Project9/Project9/BST.cpp b/source/repos/Project9/Project9/BST.cpp
index 5d148b2..08c35e2 100644
--- a/source/repos/Project9/Project9/BST.cpp
+++ b/source/repos/Project9/Project9/BST.cpp
@@ -290,6 +290,8 @@ int main() {
     data1.push_back(i);
 }

+ //6666666
+
     std::vector<int> data2 = data1; // <B5><FE><D7><E9><B2><E2><CA><D4><CA><FD><BE><A8><CB><E6><BB><FA><D0><F2><C1>
<A9>
     std::srand(static_cast<unsigned int>(std::time(nullptr)));
     std::random_shuffle(data2.begin(), data2.end());
diff --git a/source/repos/Project9/Project9/input.txt b/source/repos/Project9/Project9/input.txt
index 632649a..e7a80f6 100644
--- a/source/repos/Project9/Project9/input.txt
+++ b/source/repos/Project9/Project9/input.txt
@@ -15,4 +15,7 @@
5 9 3
7 9 2
8 9 5
-1 -1 -1
\ No newline at end of file
+1 -1 -1
+
+???
\ No newline at end of file

```

1.5 重新提交；命令：git add source/repos/Project9/Project9/BST.cpp

git add source/repos/Project9/Project9/input.txt

git add source/repos/Project9/Project9/input1.txt

git commit -m "Updated files"

```
C:\Users\ciweiandmao>git add source/repos/Project9/Project9/BST.cpp
C:\Users\ciweiandmao>git add source/repos/Project9/Project9/input.txt
C:\Users\ciweiandmao>git add source/repos/Project9/Project9/input1.txt
C:\Users\ciweiandmao>git commit -m "Updated files"
[master 140455e] Updated files
3 files changed, 9 insertions(+), 2 deletions(-)
```

1.6 重新提交；命令：git add source/repos/Project9/Project9/BST.cpp
git add source/repos/Project9/Project9/input.txt
git add source/repos/Project9/Project9/input1.txt
git commit -m "Updated files"

```
C:\Users\ciweiandmao>git add source/repos/Project9/Project9/BST.cpp
C:\Users\ciweiandmao>git add source/repos/Project9/Project9/input.txt
C:\Users\ciweiandmao>git add source/repos/Project9/Project9/input1.txt
C:\Users\ciweiandmao>git commit -m "Updated files"
[master 62e7f19] Updated files
3 files changed, 3 insertions(+), 3 deletions(-)
```

1.7 把最后一次提交撤销；命令 git reset --soft

```
C:\Users\ciweiandmao>git reset --soft
```

1.8 把最后一次提交撤销；命令 git log

```
C:\Users\ciweiandmao>git log
commit 62e7f19bf961b42b32fa80e29d345ac21ebb08c5 (HEAD -> master)
Author: ciweiandmao <lwj197791@gmail.com>
Date: Sat Nov 4 23:10:28 2023 +0800

    Updated files

commit 140455e86dc7c13f62b16f761b2db5deelaee076
Author: ciweiandmao <lwj197791@gmail.com>
Date: Sat Nov 4 23:07:18 2023 +0800

    Updated files

commit 2df21395b8c850db3906d9f7ed047d03ddf72c30
Author: ciweiandmao <lwj197791@gmail.com>
Date: Sat Nov 4 22:58:26 2023 +0800

    Initial commit
```

1.9 在 GitHub 上创建名为 Lab1 的仓库，并在本地仓库建立相应的远程仓库；

命令：git remote add origin <https://github.com/OSSDP/Lab1-2023140022>

git remote -v

```
C:\Users\ciweiandmao>git remote add origin "https://github.com/OSSDP/Lab1-2023140022"
C:\Users\ciweiandmao>git remote -v
origin https://github.com/OSSDP/Lab1-2023140022 (fetch)
origin https://github.com/OSSDP/Lab1-2023140022 (push)
```

1.10 将之前各步骤得到的本地仓库全部内容推送到 GitHub 的 Lab1 仓库;

命令: git push -u origin master

```
C:\Users\ciweiandmao>git push -u origin master
info: please complete authentication in your browser...
Enumerating objects: 50, done.
Counting objects: 100% (50/50), done.
Delta compression using up to 12 threads
Compressing objects: 100% (36/36), done.
Writing objects: 100% (50/50), 1.03 MiB | 585.00 KiB/s, done.
Total 50 (delta 13), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (13/13), done.
remote:
remote: Create a pull request for 'master' on GitHub by visiting:
remote:   https://github.com/OSSDP/Lab1-2023140022/pull/new/master
remote:
To https://github.com/OSSDP/Lab1-2023140022
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
```

3.2 实验场景(2): 分支管理

2.1 获得本地 Lab1 仓库的全部分支, 切换至分支 master

命令: git checkout
git checkout master

```
C:\Users\ciweiandmao>git checkout
Your branch is up to date with 'origin/master'.

C:\Users\ciweiandmao>git checkout master
Already on 'master'
Your branch is up to date with 'origin/master'.
```

2.2 在 master 基础上建立两个分支 B1、B2;

命令: git branch B1
git branch B2

```
C:\Users\ciweiandmao>git branch B1
C:\Users\ciweiandmao>git branch B2
```

2.3 在 B2 分支基础上创建一个新分支 C4;

命令: git checkout B2
git branch C4

```
C:\Users\ciweiandmao>git checkout B2
Switched to branch 'B2'

C:\Users\ciweiandmao>git branch C4
```

2.4 在 C4 上，对 3 个文件进行修改并提交；

命令：git checkout C4

```
git add "C:\Users\ciweiandmao\source\repos\Project8\Project8"
```

```
git add source/repos/Project8/Project8/main(1).cpp
```

```
git add source/repos/Project8/Project8/源.cpp
```

```
git add source/repos/Project8/Project8/x64/Debug/Project8.Build.CppClean.log
```

```
git commit -m "Updated files"
```

```
管理员: C:\Windows\system32\CMD.exe

C:\Users\ciweiandmao>git checkout C4
Switched to branch 'C4'

C:\Users\ciweiandmao>git add "C:\Users\ciweiandmao\source\repos\Project8\Project8"
warning: in the working copy of 'source/repos/Project8/Project8/main(1).cpp', LF will be replaced by CRLF the next time
Git touches it

C:\Users\ciweiandmao>git add source/repos/Project8/Project8/main(1).cpp
warning: in the working copy of 'source/repos/Project8/Project8/main(1).cpp', LF will be replaced by CRLF the next time
Git touches it

C:\Users\ciweiandmao>git add source/repos/Project8/Project8/源.cpp

C:\Users\ciweiandmao> git add source/repos/Project8/Project8/x64/Debug/Project8.Build.CppClean.log

C:\Users\ciweiandmao>git commit -m "Updated files"
[C4 6815538] Updated files
21 files changed, 870 insertions(+)
create mode 100644 source/repos/Project8/Project8/Project8.vcxproj
create mode 100644 source/repos/Project8/Project8/Project8.vcxproj.filters
create mode 100644 source/repos/Project8/Project8/Project8.vcxproj.user
create mode 100644 source/repos/Project8/Project8/Project8/main(1).cpp
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.Build.CppClean.log
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.exe.recipe
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.ilc
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.log
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.tlog/CL.command.1.tlog
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.tlog/CL.read.1.tlog
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.tlog/CL.write.1.tlog
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.tlog/Project8.lastbuildstate
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.tlog/link.command.1.tlog
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.tlog/link.read.1.tlog
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.tlog/link.write.1.tlog
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.vcxproj.FileListAbsolute.txt
create mode 100644 source/repos/Project8/Project8/x64/Debug/main(1).obj
create mode 100644 source/repos/Project8/Project8/x64/Debug/vcl43.idb
create mode 100644 source/repos/Project8/Project8/x64/Debug/vcl43.pdb
create mode 100644 "source/repos/Project8/Project8/x64/Debug/\346\272\220.obj"
create mode 100644 "source/repos/Project8/Project8/\346\272\220.cpp"

C:\Users\ciweiandmao>
```

2.5 在 B1 分支上对同样的 3 个文件做不同修改并提交；

命令：git checkout B1

```
git add "C:\Users\ciweiandmao\source\repos\Project8\Project8"
```

```
git add source/repos/Project8/Project8/main(1).cpp
```

```
git add source/repos/Project8/Project8/源.cpp
```

```
git add source/repos/Project8/Project8/x64/Debug/Project8.Build.CppClean.log
```

```
git commit -m "Updated files"
```

```
PS C:\Users\ciweiandmao\source\repos\Project8\Project8> git add .\Project8.Build.CppClean.log
PS C:\Users\ciweiandmao\source\repos\Project8\Project8> git commit -m "UpdateFiles"
PS C:\Users\ciweiandmao\source\repos\Project8\Project8> cd ../../
PS C:\Users\ciweiandmao\source\repos\Project8\Project8> gitui
PS C:\Users\ciweiandmao\source\repos\Project8\Project8> git add ".\main(1).cpp"
warning: in the working copy of 'source/repos/Project8/Project8/main(1).cpp', LF will be replaced by CRLF the next time Git touches it
PS C:\Users\ciweiandmao\source\repos\Project8\Project8> git add ".\源.cpp"
PS C:\Users\ciweiandmao\source\repos\Project8\Project8> git add ".\x64\Debug\Project8.Build.CppClean.log"
PS C:\Users\ciweiandmao\source\repos\Project8\Project8> git commit -m "Update Files"
[C4 ef8e80d] Update Files
3 files changed, 688 insertions(+)
create mode 100644 source/repos/Project8/Project8/main(1).cpp
create mode 100644 source/repos/Project8/Project8/x64/Debug/Project8.Build.CppClean.log
create mode 100644 "source/repos/Project8/Project8/\346\272\220.cpp"
PS C:\Users\ciweiandmao\source\repos\Project8\Project8>
```


2.6 将 C4 合并到 B1 分支，若有冲突，手工消解；

命令：git checkout B1

git merge C4

2.7 在 B2 分支上对 3 个文件做修改并提交；

命令：git checkout B2

git add "C:\Users\ciweiandmao\source\repos\Project6\Project6"

git add source/repos/Project6/Project6/test.cpp

git add source/repos/Project6/Project6/quzi.txt

git add source/repos/Project6/Project6/test.txt

git commit -m "Updated files"

```
C:\Users\ciweiandmao>git checkout B2
Switched to branch 'B2'

C:\Users\ciweiandmao> git add "C:\Users\ciweiandmao\source\repos\Project6\Project6"

C:\Users\ciweiandmao>git add source/repos/Project6/Project6/test.cpp

C:\Users\ciweiandmao>git add source/repos/Project6/Project6/quzi.txt

C:\Users\ciweiandmao>git add source/repos/Project6/Project6/test.txt

C:\Users\ciweiandmao> git commit -m "Updated files"
[B2 1f69b8f] Updated files
27 files changed, 180 insertions(+)
create mode 100644 source/repos/Project6/Project6/Project6.vcxproj
create mode 100644 source/repos/Project6/Project6/Project6.vcxproj.filters
create mode 100644 source/repos/Project6/Project6/Project6.vcxproj.user
create mode 100644 source/repos/Project6/Project6/quzi.txt
create mode 100644 source/repos/Project6/Project6/test.cpp
create mode 100644 source/repos/Project6/Project6/test.txt
create mode 100644 source/repos/Project6/Project6/x64/Debug/LibrarySystem.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/LinkList-Reverse.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/LinkList.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.exe.recipe
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.ilnk
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.log
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.tlog/CL.command.1.tlog
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.tlog/CL.read.1.tlog
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.tlog/CL.write.1.tlog
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.tlog/Project6.lastbuildstate
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.tlog/link.command.1.tlog
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.tlog/link.read.1.tlog
create mode 100644 source/repos/Project6/Project6/x64/Debug/Project6.tlog/link.write.1.tlog
create mode 100644 source/repos/Project6/Project6/x64/Debug/SeqList.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/StaticLinkList.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/System.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/test-one.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/test-three.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/test-two.obj
create mode 100644 source/repos/Project6/Project6/x64/Debug/vc143.idb
create mode 100644 source/repos/Project6/Project6/x64/Debug/vc143.pdb

C:\Users\ciweiandmao>
```

2.8 查看目前哪些分支已经合并、哪些分支尚未合并；

命令：git branch --merged

git branch --no-merged

```
C:\Users\ciweiandmao>git branch --merged
* B2
  master

C:\Users\ciweiandmao>git branch --no-merged
  B1
  C4
```

2.9 将已经合并的分支删除，将尚未合并的分支合并到一个新分支上，分支名字为你的学号；

命令：

git branch -D B1

git branch -D C4

git branch 2023140022

```
git checkout 2023140022
```

```
git merge B2
```

```
C:\Users\ciweiandmao>git branch -D B1
Deleted branch B1 (was ef8e80d).

C:\Users\ciweiandmao>git branch -D C4
Deleted branch C4 (was ef8e80d).

C:\Users\ciweiandmao>git branch 2023140022

C:\Users\ciweiandmao>git checkout 2023140022
Switched to branch '2023140022'

C:\Users\ciweiandmao>git merge B2
Already up to date.
```

2.10 将本地以你的学号命名的分支推送到 GitHub 上自己的仓库内；

命令: `git push --set-upstream origin 2023140022`

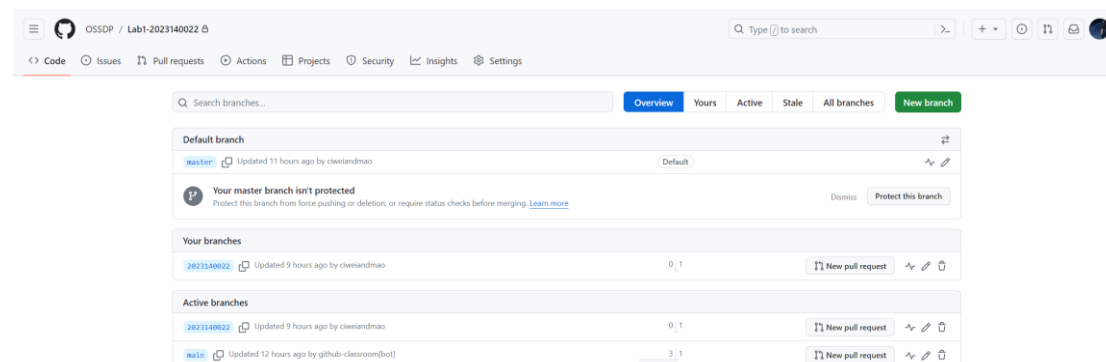
```
C:\Users\ciweiandmao>git push --set-upstream origin 2023140022
Enumerating objects: 39, done.
Counting objects: 100% (39/39), done.
Delta compression using up to 12 threads
Compressing objects: 100% (29/29), done.
Writing objects: 100% (36/36), 145.69 KiB | 7.28 MiB/s, done.
Total 36 (delta 8), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (8/8), done.
remote:
remote: Create a pull request for '2023140022' on GitHub by visiting:
remote:   https://github.com/OSSDP/Lab1-2023140022/pull/new/2023140022
remote:
To https://github.com/OSSDP/Lab1-2023140022
 * [new branch]      2023140022 -> 2023140022
branch '2023140022' set up to track 'origin/2023140022'.
```

2.11 查看完整的版本变迁树；

命令: `git log --graph --oneline --all`

```
C:\Users\ciweiandmao>git log --graph --oneline --all
* 1f69b8f (HEAD -> 2023140022, origin/2023140022, B2) Updated files
* 62e7f19 (origin/master, master) Updated files
* 140455e Updated files
* 2df2139 Initial commit
```

2.12 在 Github 上以 web 页面的方式查看你的 Lab1 仓库的当前状态。



3.3 实验场景(3): 在线 Git 练习

(一) 主要页面-基础篇

任务 1: 操作命令集:

git commit

git commit

任务 2: 操作命令集:

git checkout -b bugFix

任务 3: 操作命令集:

git checkout -b bugFix

git commit

git checkout main

git commit

git merge bugFix

任务 4: 操作命令集:

git checkout -b bugFix

git commit

git checkout main

git commit

git checkout bugFix

git rebase main

(二) 主要页面-高级篇

任务 1: 操作命令集:

git checkout C2

git checkout C4

任务 2: 操作命令集:

git checkout bugFix

git checkout HEAD^

任务 3: 操作命令集:

git branch -f main C6

git branch -f bugFix bugFix~3

git checkout C1

任务 4: 操作命令集:

git reset HEAD~1

git checkout pushed

git revert HEAD

(三) 主要页面-移动提交记录

任务 1: 操作命令集:

git cherry-pick C3 C4 C7

任务 2: 操作命令集:

git rebase -i HEAD~4

（四）主要页面-杂项

任务 1: 操作命令集:

```
git rebase -i HEAD~3
```

```
git checkout main
```

```
git branch -f main C4'
```

任务 2: 操作命令集:

```
git rebase -i HEAD~2
```

```
git commit --amend
```

```
git rebase -i HEAD~2
```

```
git checkout main
```

```
git branch -f main C3"
```

任务 3: 操作命令集:

```
git checkout main
```

```
git cherry-pick C2
```

```
git reset HEAD~
```

```
git cherry-pick C2'
```

```
git cherry-pick C3
```

任务 4: 操作命令集:

```
git tag v0 C1
```

```
git tag v1 C2
```

```
git checkout v1
```

任务 5: 操作命令集:

```
git commit
```

（五）主要页面-高级话题*

任务 1: 操作命令集:

```
git rebase main bugFix
```

```
git rebase bugFix side
```

```
git rebase side another
```

```
git branch -f main another
```

任务 2: 操作命令集:

```
git branch bugWork HEAD~^2~
```

任务 3: 操作命令集:

```
git checkout one
```

```
git cherry-pick c4 c3 c2
```

```
git checkout two
```

```
git cherry-pick c5 c4 c3 c2
```

```
git branch -f three c2
```

（六）远程页面-Git 远程仓库

任务 1: 操作命令集:

```
git clone
```

任务 2: 操作命令集:

```
git commit
```

```
git checkout o/main
```

```
git commit
```

任务 3: 操作命令集:`git fetch`**任务 4: 操作命令集:**`git pull`**任务 5: 操作命令集:**`git clone``git fakeTeamwork 2``git commit``git pull`**任务 6: 操作命令集:**`git commit``git commit``git push`**任务 7: 操作命令集:**`git clone``git fakeTeamwork 1``git commit``git pull --rebase``git push`**任务 8: 操作命令集:**`git reset o/main``git checkout -b feature C2``git push origin feature`**(七) 远程页面-Git 远程仓库高级操作****任务 1: 操作命令集:**`git fetch``git rebase o/main side1``git rebase side1 side2``git rebase side2 side3``git rebase side3 main``git push`**任务 2: 操作命令集:**`git checkout main``git pull origin main``git merge side1``git merge side2``git merge side3``git push origin main`**任务 3: 操作命令集:**`git checkout -b side o/main``git commit``git pull --rebase``git push`

任务 4: 操作命令集:

```
git push origin main
```

```
git push origin foo
```

任务 5: 操作命令集:

```
git push origin foo:main
```

```
git push origin main^:foo
```

任务 6: 操作命令集:

```
git fetch origin main^:foo
```

```
git fetch origin foo:main
```

```
git checkout foo
```

```
git merge main
```

任务 7: 操作命令集:

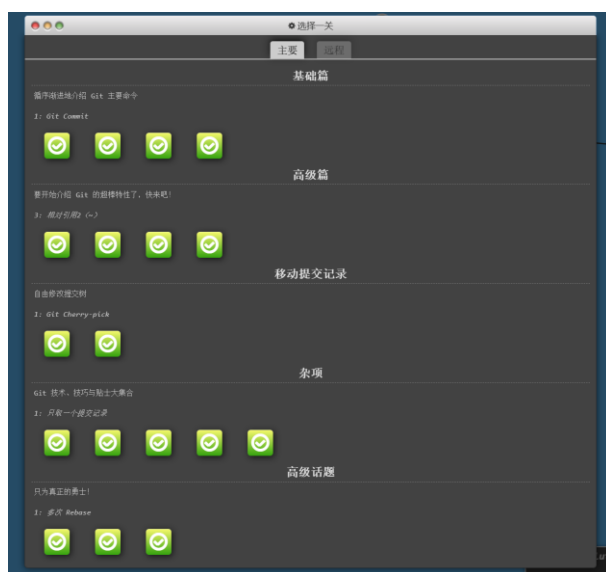
```
git pull origin :bar
```

```
git push origin :foo
```

任务 8: 操作命令集:

```
git pull origin bar:foo
```

```
git pull origin main:side
```

(八) 通关后的主界面截图

4 小结

本次实验过程中，我深入学习了 git 的使用方法，受益匪浅