Github preparation & HW1

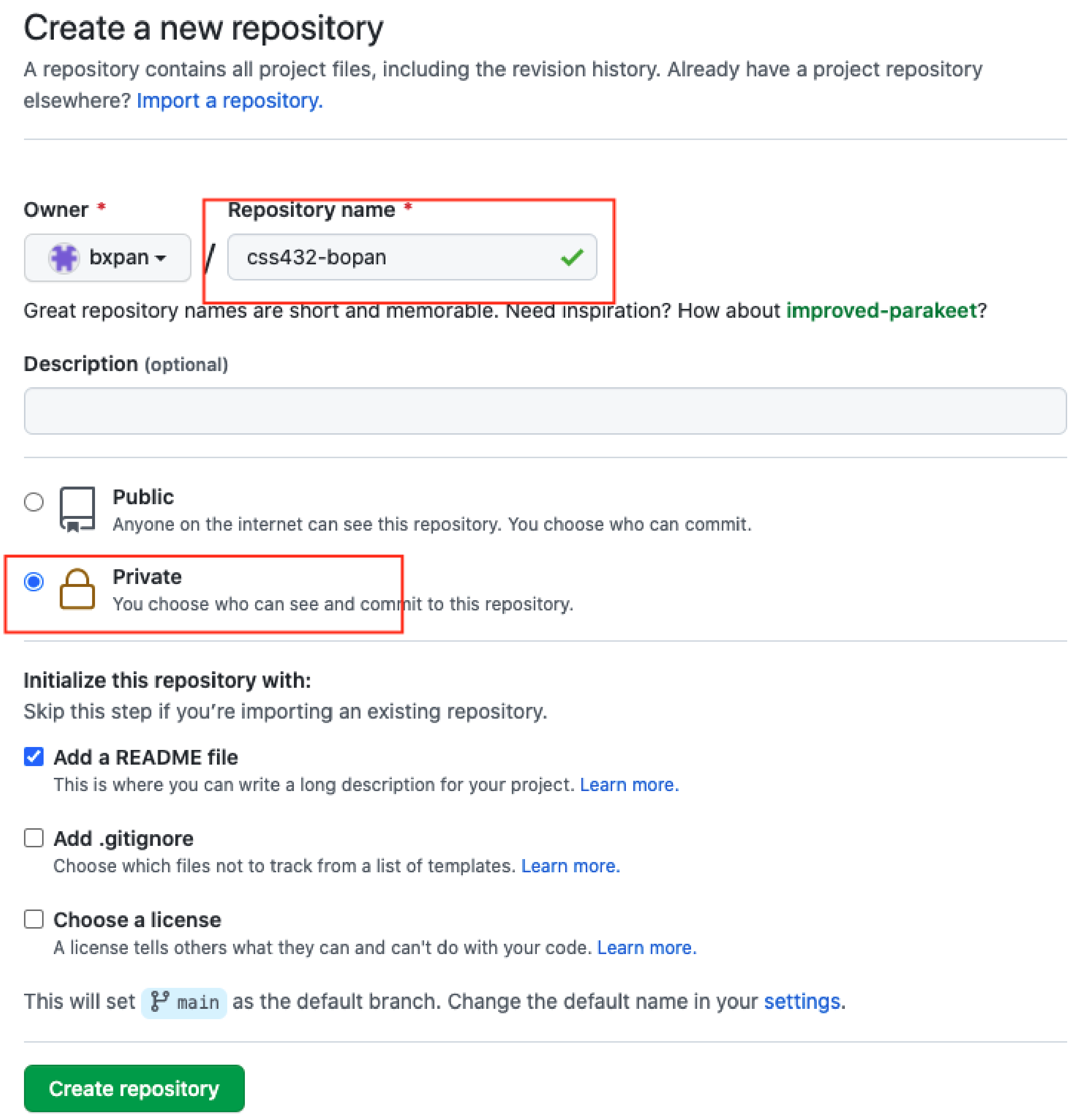
The purpose of this assignment is to help you:

1. Get your GitHub setup and ready for the rest of the programming assignments in this course.
2. Set up your coding environment.
3. Review C++ basic syntax

Setting up GitHub

1. Create an account on github.com with your UW email if you don't have a GitHub account already.
2. Create a new repo
   a. Type in a repository name, eg: ***css343-<replace with your netid>*** .
   b. Select "Private" so that your repo is not publicly visible.
   c. Check "add a README file". This will create a Readme file for you where you should add documentation about your program.
   d. Click "Create repository"

(Note: some of the screenshots show "css432", as those were captured when I taught css432. But please use CSS 343 for this class)



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Owner * / Repository name *

bxpan / css432-bopan ✓

Great repository names are short and memorable. Need inspiration? How about improved-parakeet?

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.

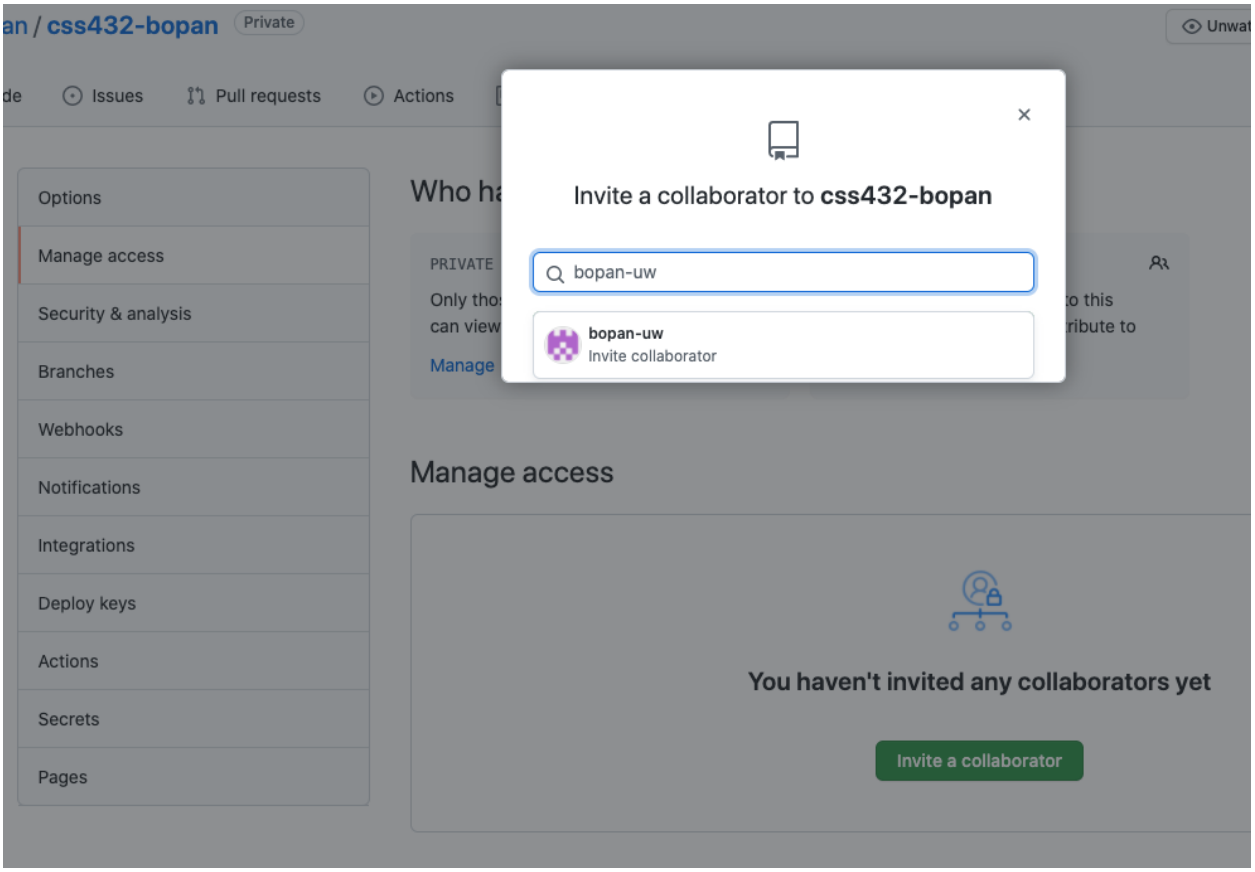
☑ Add a README file
This is where you can write a long description for your project. Learn more.

□ 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.

3. Add the instructor and the grader as a collaborator so that they can clone your repo, run and test your program.
    a. Click "Settings" tab of your newly created repository
    b. Click "Manage access" -> "Invite a collaborator"
    c. Add the instructor github username ***bopan-uw*** and the grader github username ***linneawalsh*** This will send an invitation to the instructor and the grader. You will see "Pending invite" until the invitation is accepted.



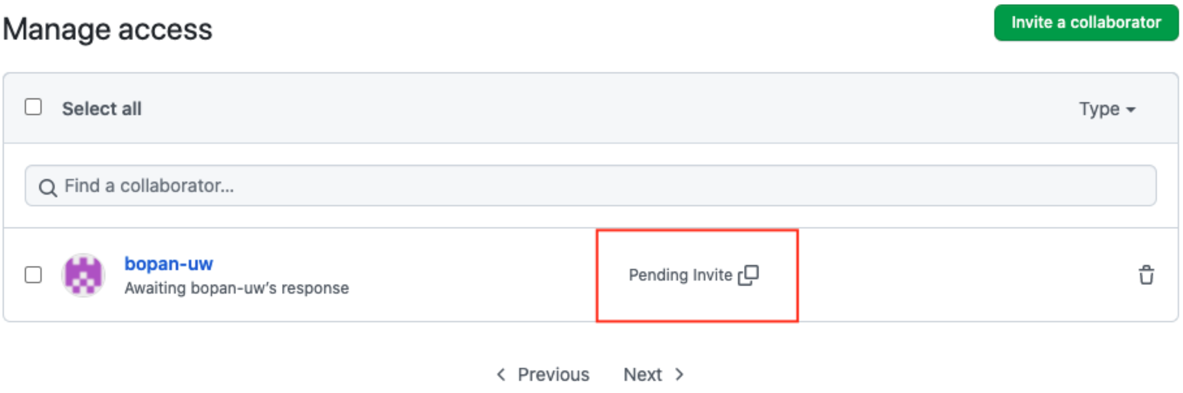
Invite a collaborator to **css432-bopan**

bopan-uw

Only thos can view

o this ribute to

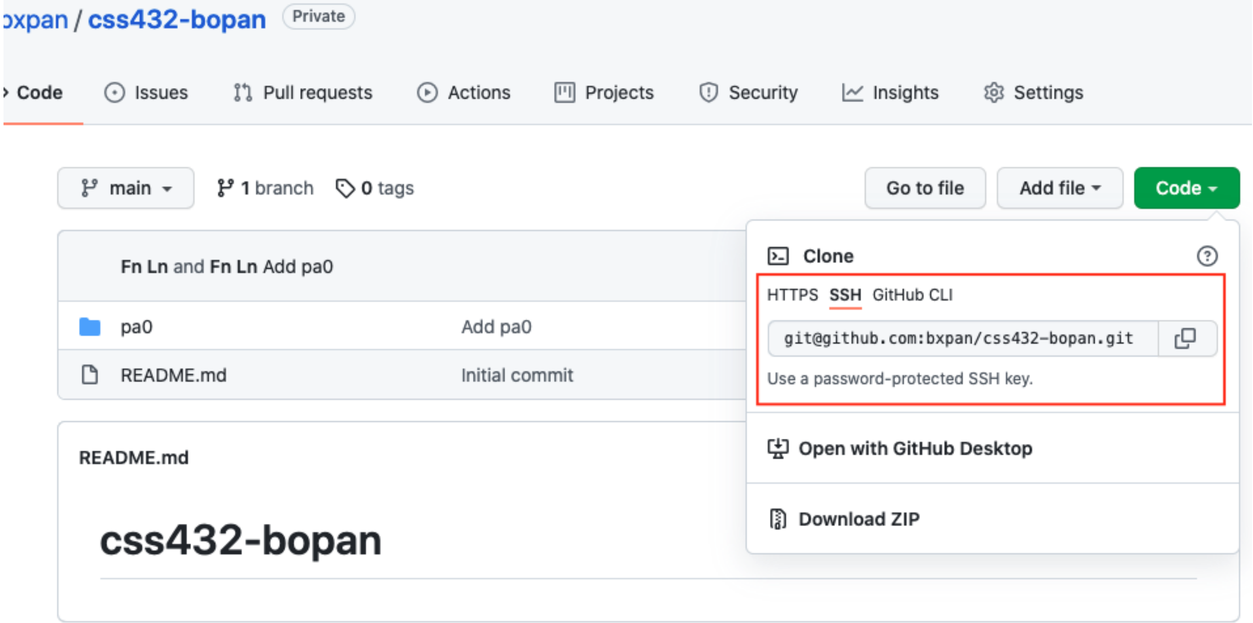
You haven't invited any collaborators yet



Manage access

□ bopan-uw
Awaiting bopan-uw's response

4. Clone your repo to your workspace directory on one of the csslab machines using **ssh**
    a. For example: "$git clone git@github.com:bxpan/css343-bopan.git"
    b. If you get a "Permission denied (publickey)" error, please continue to step 5.



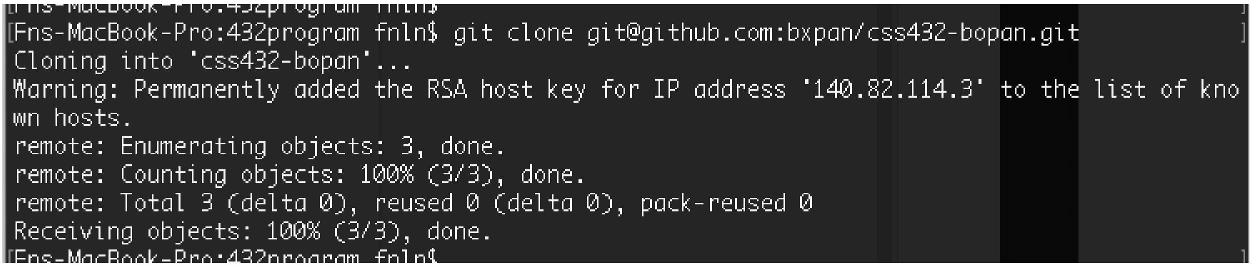
git@github.com:bxpan/css432-bopan.git

Use a password-protected SSH key.

5. Follow this link to generate a new ssh key. (You only need to complete “Generate a new ssh key” section)

6. Add the generated public key to your github account
    a. $cat ~/.ssh/id_ed25519.pub This will print your public key on screen. Copy it.
    b. Go to your github account Settings -> SSH and GPG keys -> New SSH key
    c. Paste your public key into the box, then click “Add SSH key”

7. Repeat step 4. You should now be able to clone your repo successfully



```
[Fns-MacBook-Pro:432program fnln$
[Fns-MacBook-Pro:432program fnln$ git clone git@github.com:bxpan/css432-bopan.git
 Cloning into 'css432-bopan'...
 Warning: Permanently added the RSA host key for IP address '140.82.114.3' to the list of kno
 wn hosts.
 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.
[Fns-MacBook-Pro:432program fnln$
```

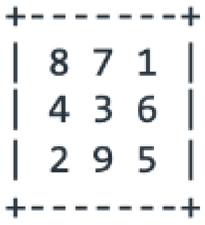
HW1

Write a simple C++ program. Your program will take a string of 9 digits as console input, randomly shuffle the digits, and print it out to console display in a 3x3 format.

Requirements:

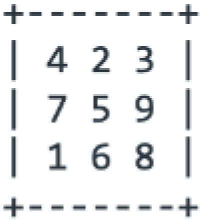
1. The program takes 1 command line argument, which represents the total number of shuffles it will print out (Assume this number is <= 10). eg:
   ```
   > ./myhw 2
   > ./myhw 8
   ```
2. The program takes the string of 9 digits through console input. It should prompt the user to type in the string of 9 digits. eg:
   ```
   > Please input 9 digits to be randomly shuffled:
   > 111222333
   ```
3. There should be no space or any other characters between each digit.
4. The program will randomly shuffles the 9 digits
5. The output of the program should print the shuffled 9 digits in 3x3 format, eg: suppose the input command line argument was 2, and the user typed a string of 9 digits "987654321", then the output should be:

   The first shuffled output is:

   ```
   +-------+
   | 8 7 1 |
   | 4 3 6 |
   | 2 9 5 |
   +-------+
   ```

   The second shuffled output is:

   ```
   +-------+
   | 4 2 3 |
   | 7 5 9 |
   | 1 6 8 |
   +-------+
   ```

6. You're free to use your preferred IDE, but please make sure your program compiles and runs on CSS linux lab machine.

Submission:

1. Create a folder called "HW1" under your repo, all your code should be pushed into HW1.

2. Add a README.md file in HW1 folder. It should capture some screenshots of your program input and output. At least one screenshot should show the command line argument as 2, and the 9 digits user input as “123456789”, and the corresponding output.
3. Paste your github repo link on Canvas HW1 assignment.