Hacettepe University

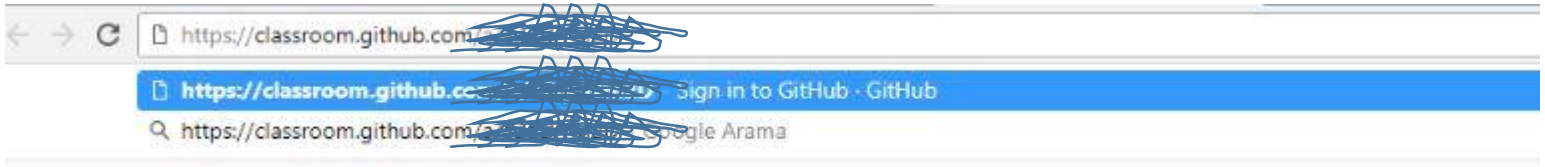
Computer Engineering Department

# Using GitHub Classroom

## BBM103 Introduction to Programming Lab 1

Fall 2018

# Signing Up to GitHub Classroom



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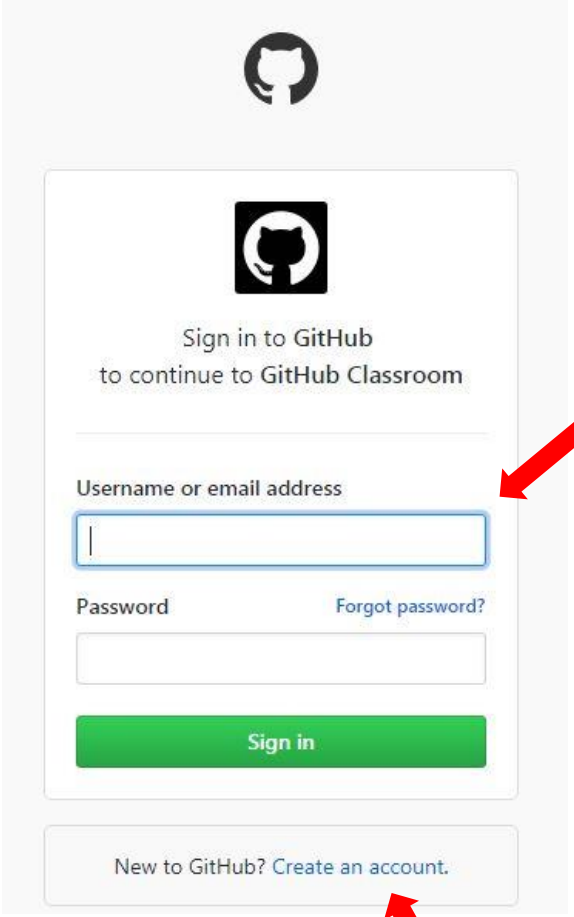
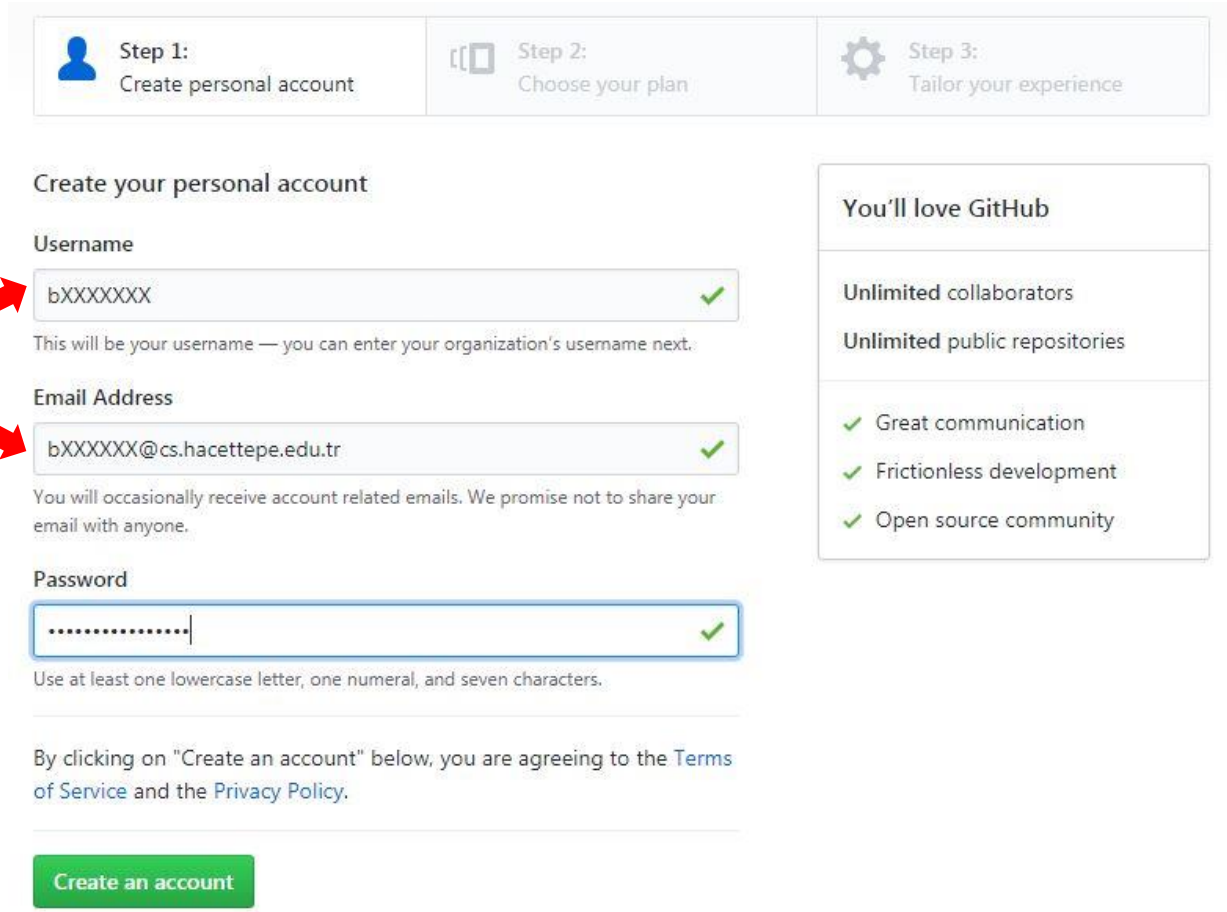



Fill textboxes and click sign in button to authorize

Click to sign up unless you have an educational account

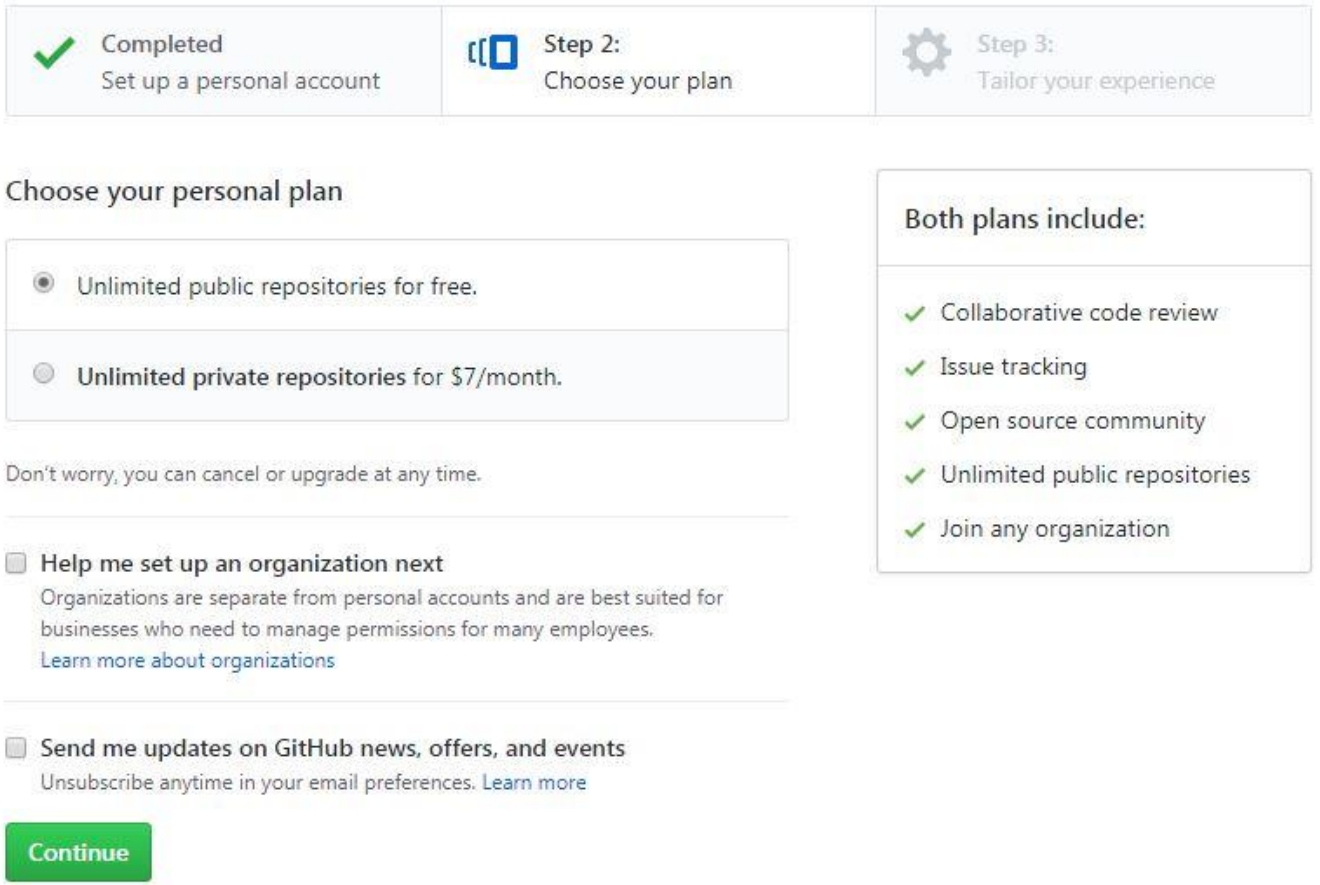
# Signing Up to GitHub Classroom

**You MUST create your account with your IDs beginning with ‘b’.**



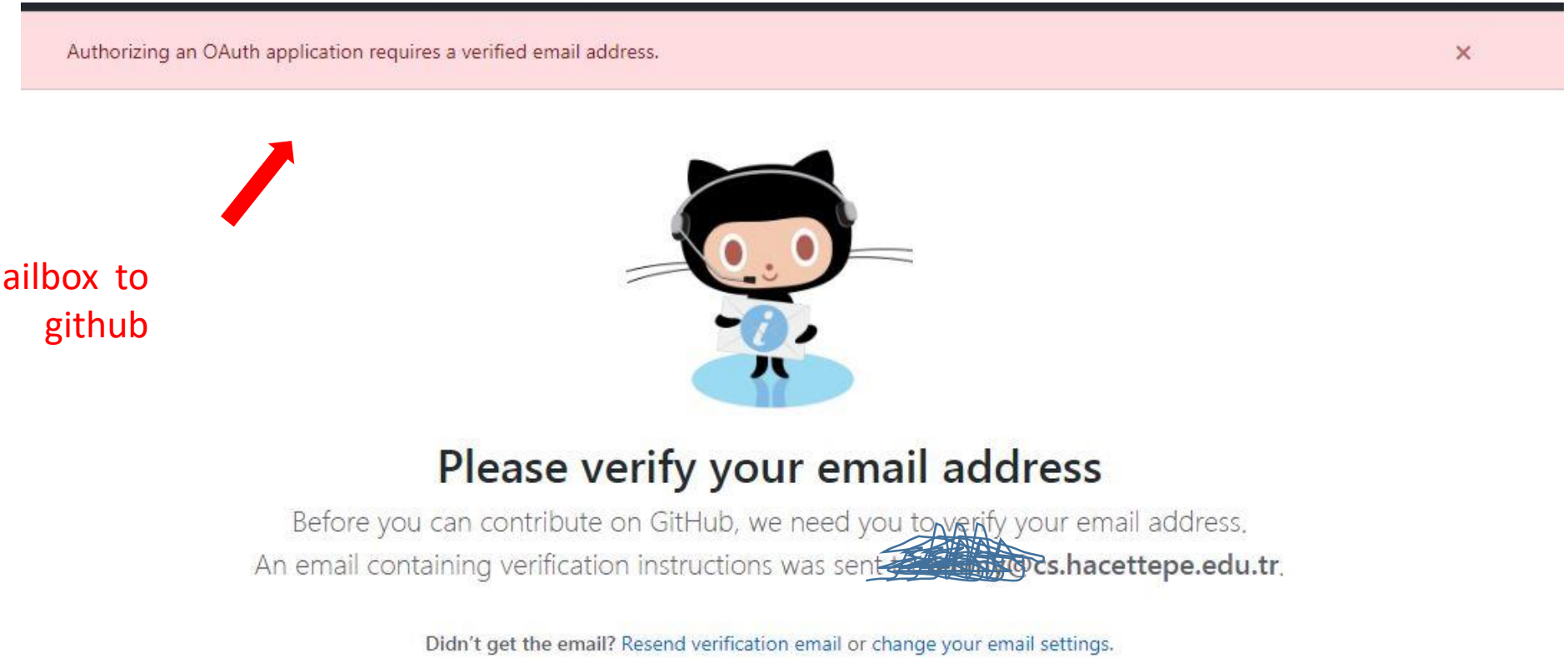
# Signing Up to GitHub Classroom

**There are two options. We recommend that you choose the 1st option unless you need a private repository.**



# Signing Up to GitHub Classroom

Open your mailbox to verify your github account.



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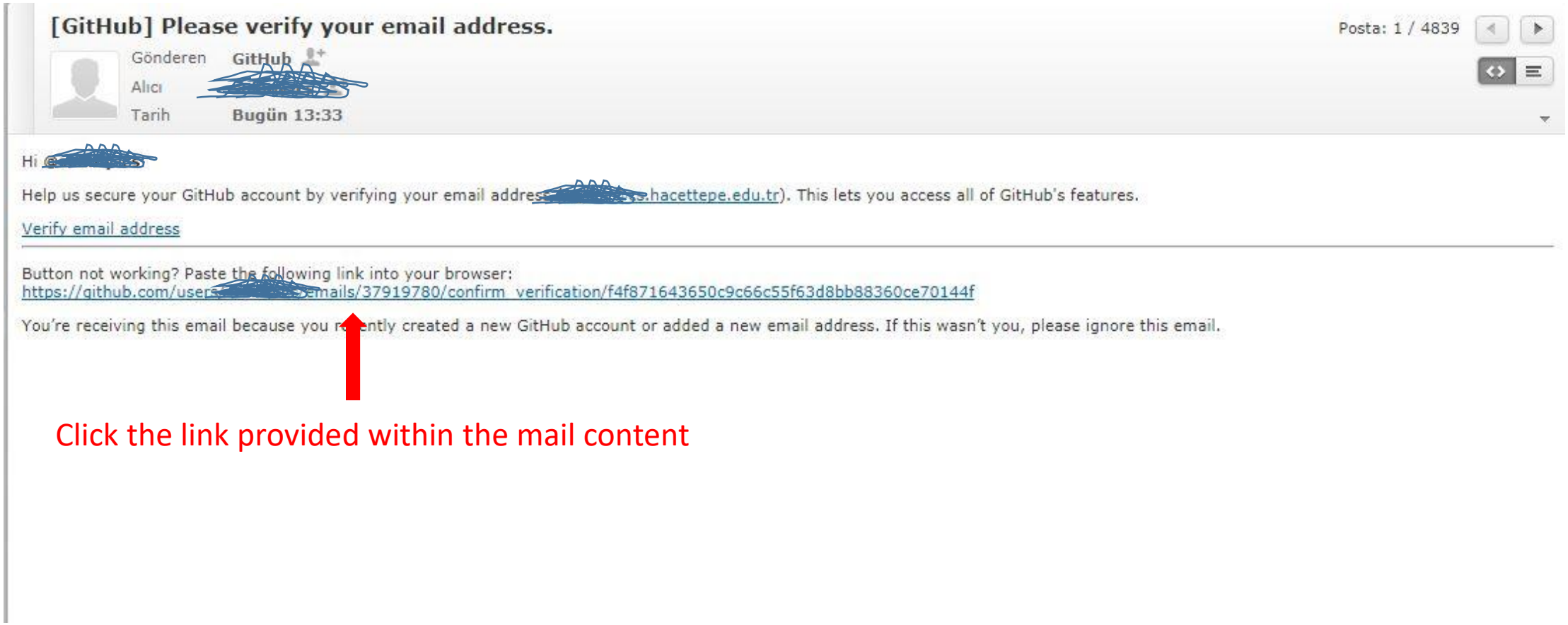
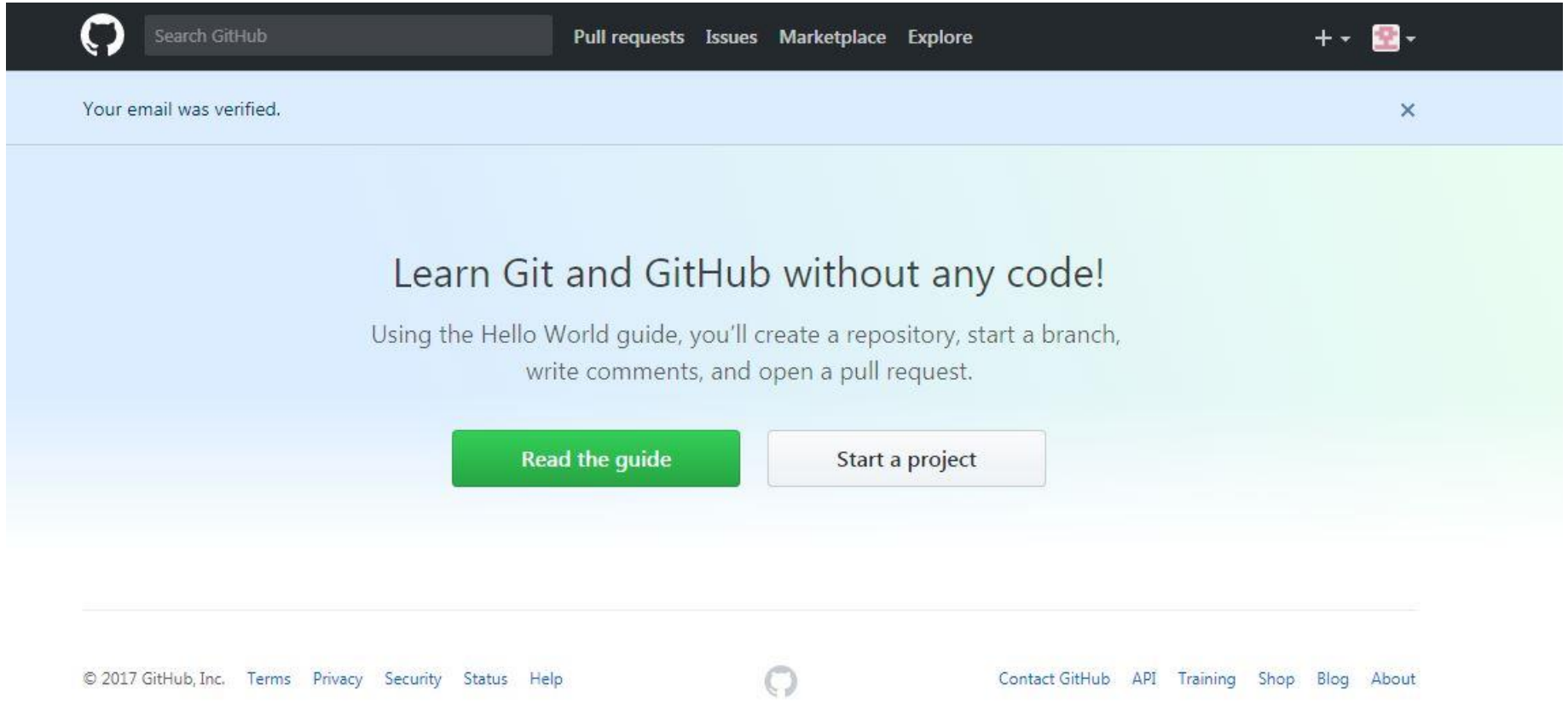


# Signing Up to GitHub Classroom



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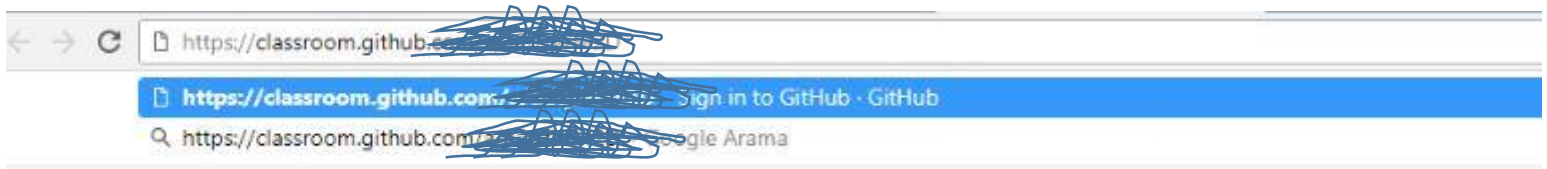
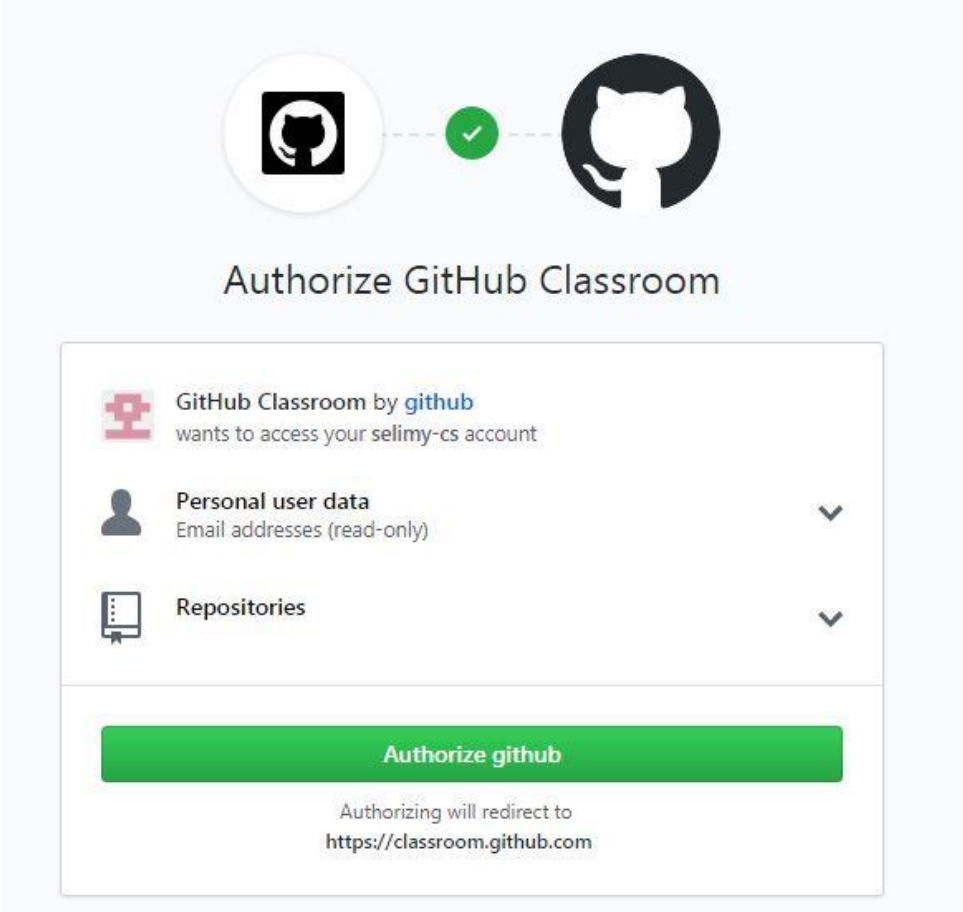
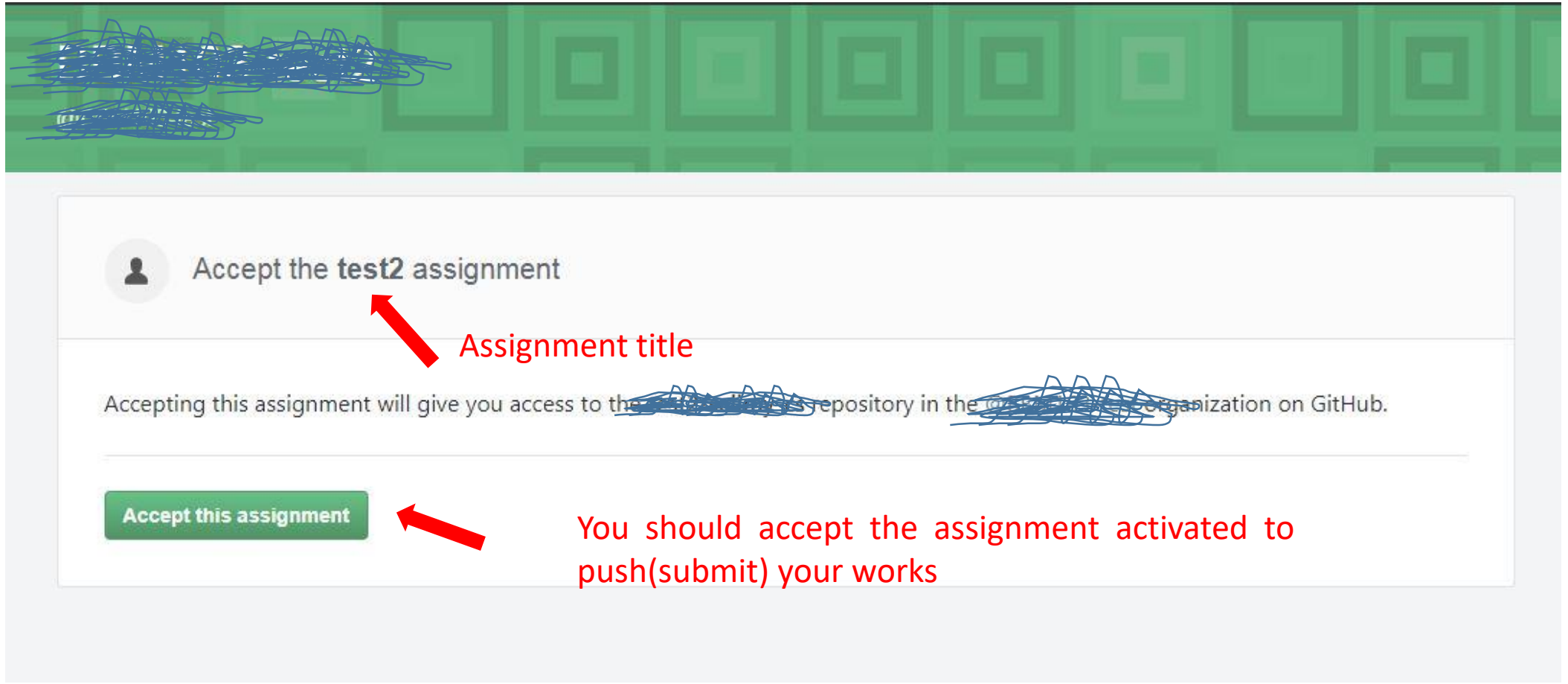


# Joining BBM103 Classroom

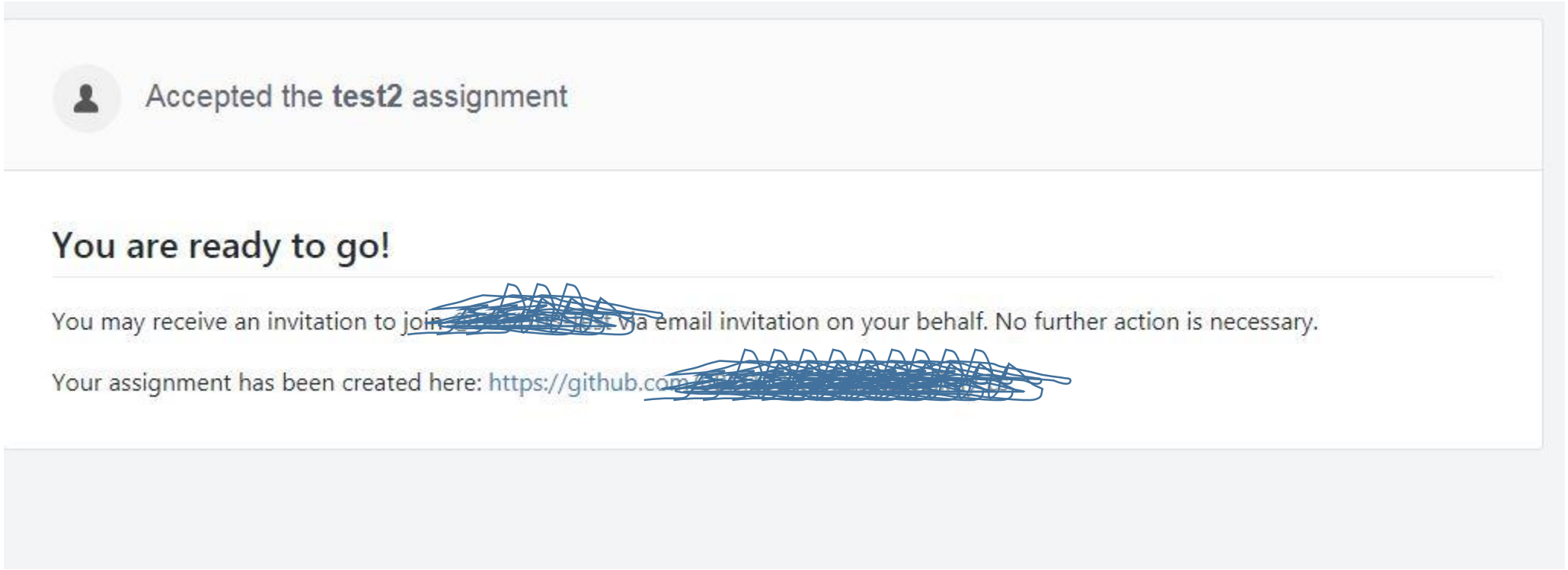
Now authorize github account.



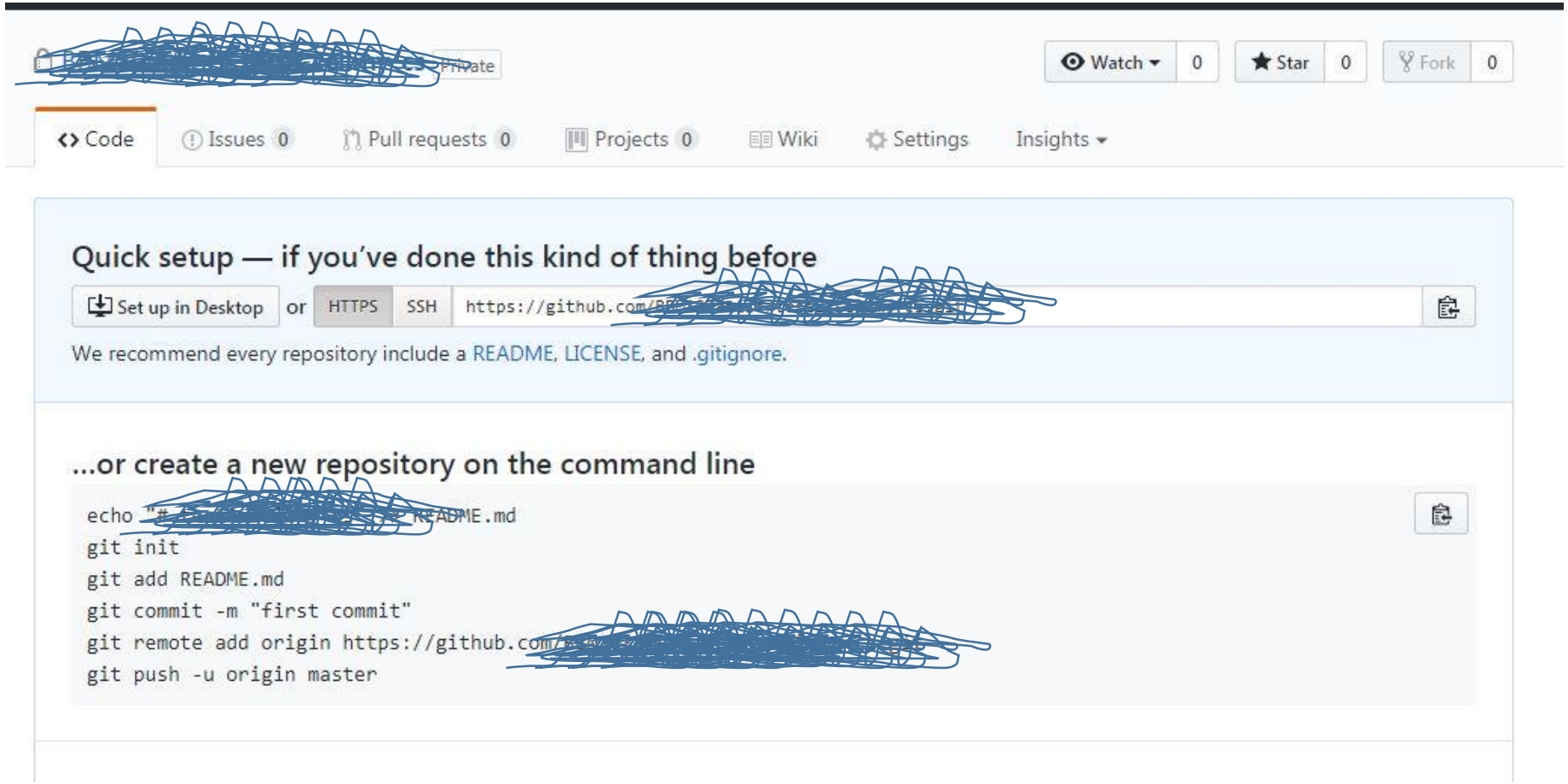
# Joining BBM103 Classroom



# Joining BBM103 Classroom



# Joining BBM103 Classroom



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# How to Use the Linux Command Line

BBM103 Introduction to Programming Lab I

Fall 2018

# The Shell & Terminal

- **The Shell** is a program that takes commands from the keyboard and gives them to the operating system to perform.

- **Terminal Emulator** is a program that opens a window and lets you interact with the shell.

# Basic Commands

- When you open a terminal emulator, by default you are in the home directory of the logged in user.
- You will see the name of the logged in user

  followed by the hostname.

  - $ means you are logged in as a regular user

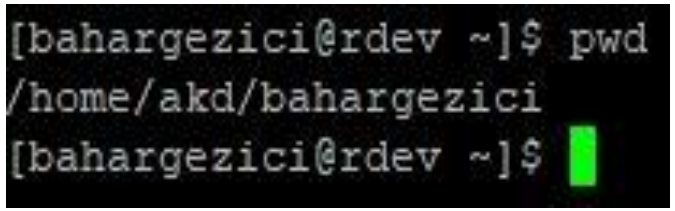
    ```
    [bahargezici@rdev ~]$
    ```

  - # means you are logged in as root.

    ```
    root@DESKTOP-5HD0AAS:/home/selim#
    ```

# pwd

- **pwd** prints the full path of your current working directory.



# ls, ll

- You can list all directories and files inside the current directory by using the **ls** (or **ls -l; ll** for listings including information such as the owner, size, date last modified and permissions) command.

# cd

- The **cd** command is used to change the current directory.

```
[bahargezici@rdev 204]$ ls
BBM204-17-B-2  BBM204-17-B-4  deneme4.sh  input1  test
[bahargezici@rdev 204]$ cd test
[bahargezici@rdev test]$
```

- To change to the parent of the current directory use **cd ..**

```
[bahargezici@rdev test]$ cd ..
[bahargezici@rdev 204]$
```

- To return directly to the home directory use a tilde as the argument:

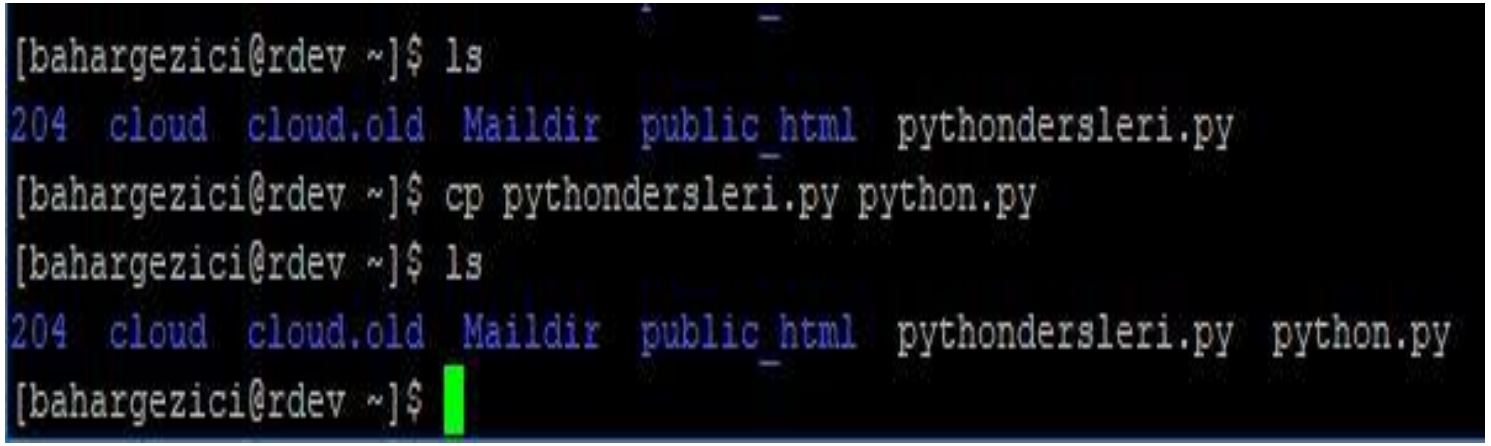
```
[bahargezici@rdev 204]$ cd ~
[bahargezici@rdev ~]$
```

# Manipulating Files

- **cp** - copy files and directories
- **rm** - remove files and directories
- **mv** - move or rename files and directories
- **mkdir** - create directories
- **cat** - create new file, concatenate files

# cp

- **cp** copies files and directories. In its simplest form, it copies a single file:

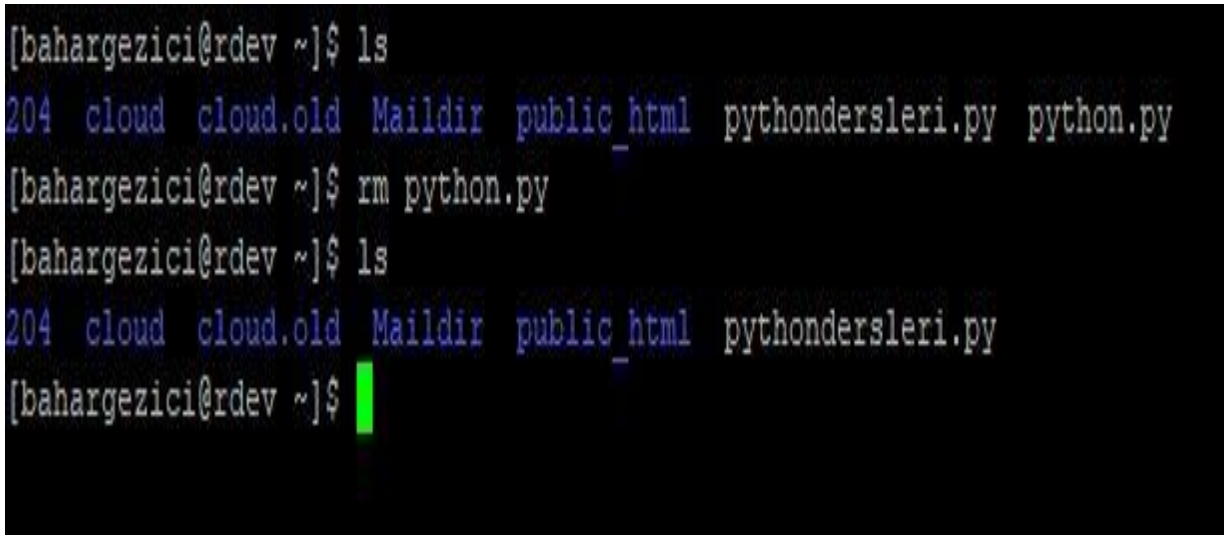


# cp (cont.)

- You can specify the full path to where you want to copy your file:

# rm

If you want to delete any file or directory the command is '**rm**' (for files) and '**rm -r**' (for directories).



# mv

- **mv** command moves or renames files and directories depending on how it is used.

```
[bahargezici@rdev ~]$ mv pythondersleri.py 204
[bahargezici@rdev ~]$ ls
204  cloud  cloud.old  Maildir  public_html
[bahargezici@rdev ~]$ cd 204
[bahargezici@rdev 204]$ ls
BBM204-17-B-2  deneme4.sh  pythondersleri.py  test
BBM204-17-B-4  input1      pythondersler.py
[bahargezici@rdev 204]$
```

```
[bahargezici@rdev 204]$ ls
BBM204-17-B-2  deneme4.sh  pythondersleri.py  test
BBM204-17-B-4  input1      pythondersler.py
[bahargezici@rdev 204]$ mv pythondersleri.py python.py
[bahargezici@rdev 204]$ ls
BBM204-17-B-2  deneme4.sh  pythondersler.py  test
BBM204-17-B-4  input1      python.py
[bahargezici@rdev 204]$
```

# mkdir

- If you want to create new directories the command is **mkdir**.

# cat

**cat** stands for **Concatenate (birleştirmek)**. It is used to **create new file** (with or without content), **concatenate files** and **display the output of files on the standard output**.

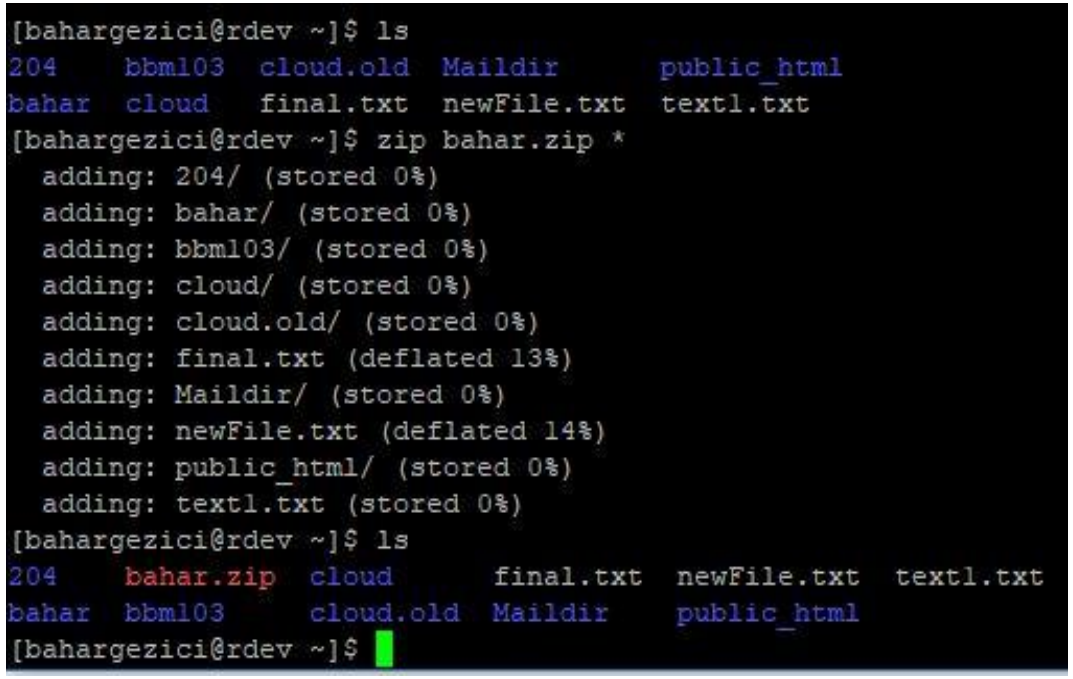
```
[bahargezici@rdev ~]$ cat >newFile.txt
This file is created to show how we can create file.
You must type Ctrl+D to quit
[bahargezici@rdev ~]$
```

```
[bahargezici@rdev ~]$ ls
204  bahar  bbm103  cloud  cloud.old  Maildir  newFile.txt  public_html
[bahargezici@rdev ~]$ cat <newFile.txt
This file is created to show how we can create file.
You must type Ctrl+D to quit
[bahargezici@rdev ~]$
```

```
[bahargezici@rdev ~]$ cat newFile.txt text1.txt <final.txt
This file is created to show how we can create file.
You must type Ctrl+D to quit.
Content2 is here.
[bahargezici@rdev ~]$
```

# zip & unzip

- **zip** and **unzip** commands create and extract zip archive files respectively.
- The * character serves as a "wild card" for filename expansion. By itself, it matches every filename in a given directory.




- Most executable programs intended for command line use provide a formal piece of documentation called a ***manual*** or ***man page***. A special paging program called **man** is used to view them.

```
[bahargezici@rdev ~]$ clear
[bahargezici@rdev ~]$ man ls
LS(1)                          User Commands                          LS(1)

NAME
       ls - list directory contents

SYNOPSIS
       ls [OPTION]... [FILE]...

DESCRIPTION
       List  information  about  the FILEs (the current directory by default).
       Sort entries alphabetically if none of -cftuvSUX nor --sort  is  speci□
       fied.

       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 ..
```

# ssh

- **ssh** (Secure Shell client) is a program for logging into a remote machine and for executing commands on a remote machine.

```
selim@DESKTOP-5HD0AAS:~$ ssh cemil@dev.cs.hacettepe.edu.tr
cemil@dev.cs.hacettepe.edu.tr's password:
```

# scp

- **scp** allows files to be copied to, from, or between different hosts. It uses **ssh** for data transfer and provides the same authentication and same level of security as **ssh**.

**A simple example that illustrates how to send a file to dev space.**

scp <localfile>  <username>@dev.cs.hacettepe.edu.tr:/home/ogr/b****/<directory>

```
selim@selim-PC:~$ scp DPSO.pdf selimy@dev.cs.hacettepe.edu.tr:/home/akd/selimy/
selimy@dev.cs.hacettepe.edu.tr's password:
```

# About chmod

- **chmod** is used to change the permissions of files or directories.
- Example: chmod 777 myFile

| # | Permission | rwx |
|---|---|---|
| 7 | read, write and execute | rwx |
| 6 | read and write | rw- |
| 5 | read and execute | r-x |
| 4 | read only | r-- |
| 3 | write and execute | -wx |
| 2 | write only | -w- |
| 1 | execute only | --x |
| 0 | none | --- |

# Exercise

- **All tasks must be performed using linux commands:**
  1) Make a new directory named **`playing_with_linux_cmd`**
  2) Change your current working directory to the newly created one.
  3) List the contents of this directory to see that it is empty.
  4) Create a new text file **`jibberish.txt`** and write something funny in it before closing it.
  5) Create another new text file **`README.txt`** and write your life motto in it.
  6) Copy **`jibberish.txt`** into a text file named **`wise_sayings.txt`**
  7) Delete **`jibberish.txt`**
  8) Print out the content of **`wise_sayings.txt`**
  9) Create a new directory named **`my_precious`** and move **`wise_sayings.txt`** into that newly created directory. List the content of the current working directory to make sure that you have successfully moved the file.
  10) Change the permission of the file **`wise_sayings.txt`** to **read, write and execute**.
  11) Change your working directory to the parent directory of **`playing_with_linux_cmd`**
  12) Zip **`playing_with_linux_cmd`** as **`gameover.zip`**
  13) Use **scp** command to copy this zipped folder from your local computer to your home directory on our remote server **dev.cs.hacettepe.edu.tr**