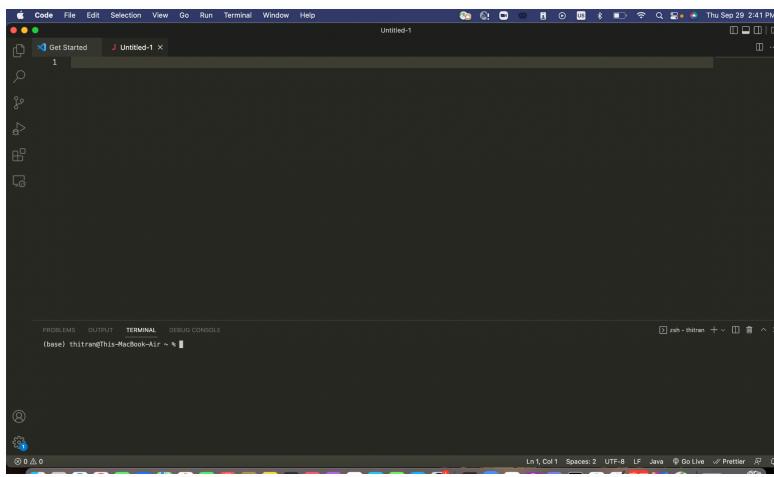


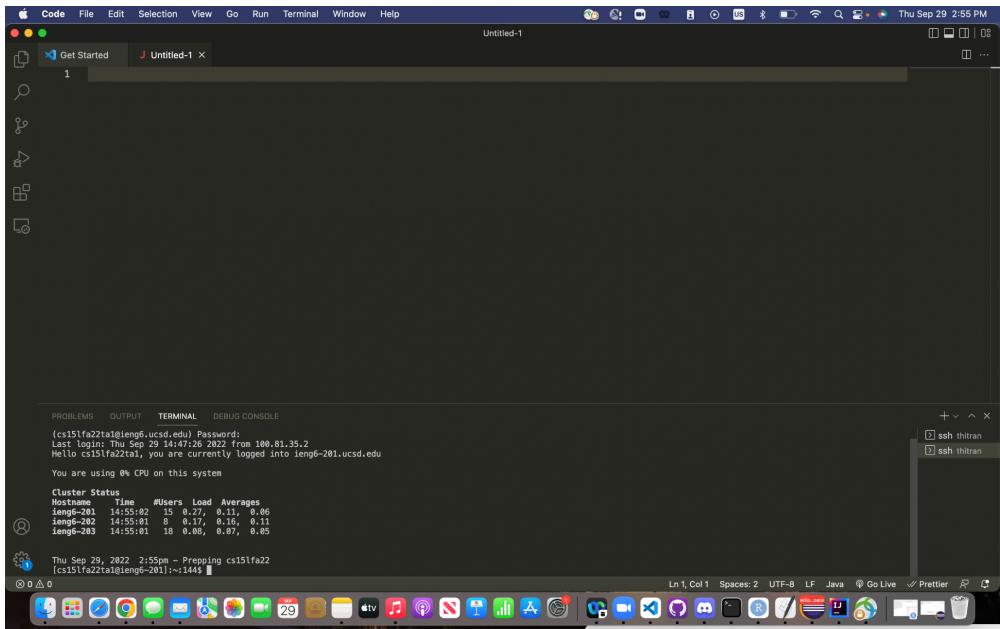
1. Installing VScode

I have installed Visual Studio Code before so this process is quite easy for me. First, I searched VSCode on Google and clicked download that matches with my Operational Systems.



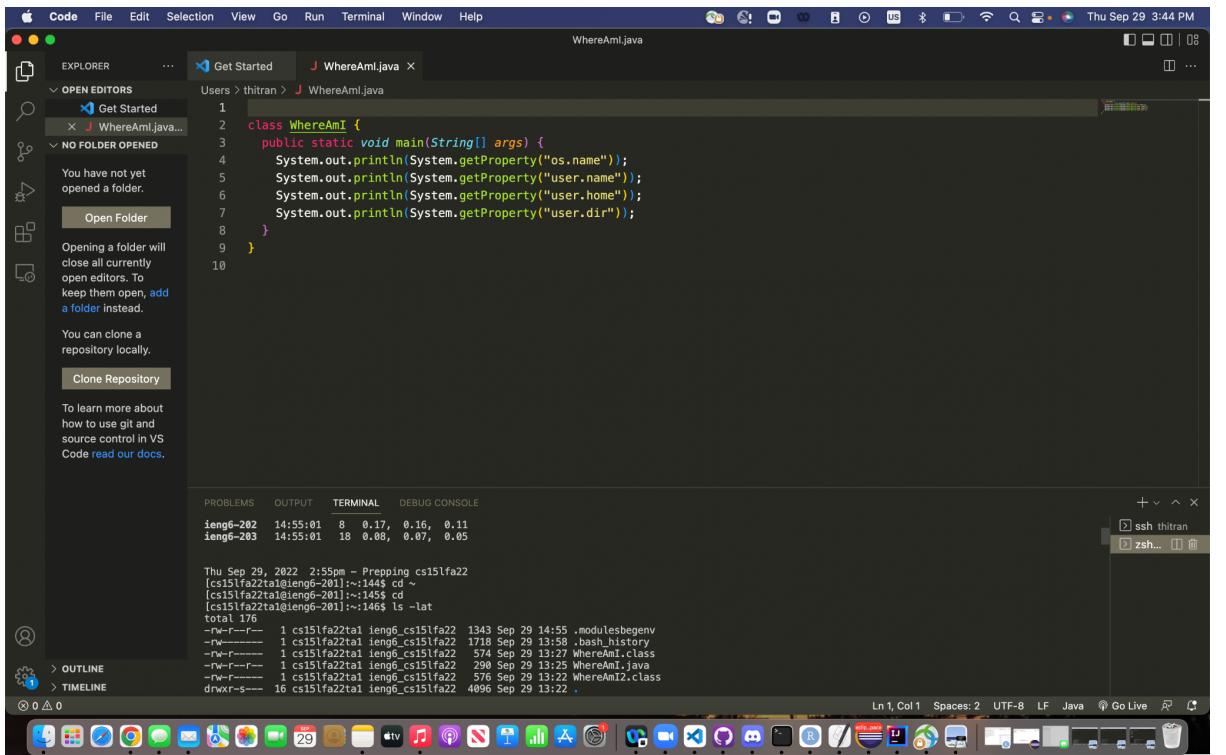
2. Remotely Connecting

First of all, I created a new password using the provided link from the CSE15L page. I waited for a while(approximately more than 15 mins) to log into the terminal. Unfortunately, the terminal was not working. I was denied permission access after trying to enter the password multiple times. For that reason, I used the TA account and it worked as I had screenshot it below.



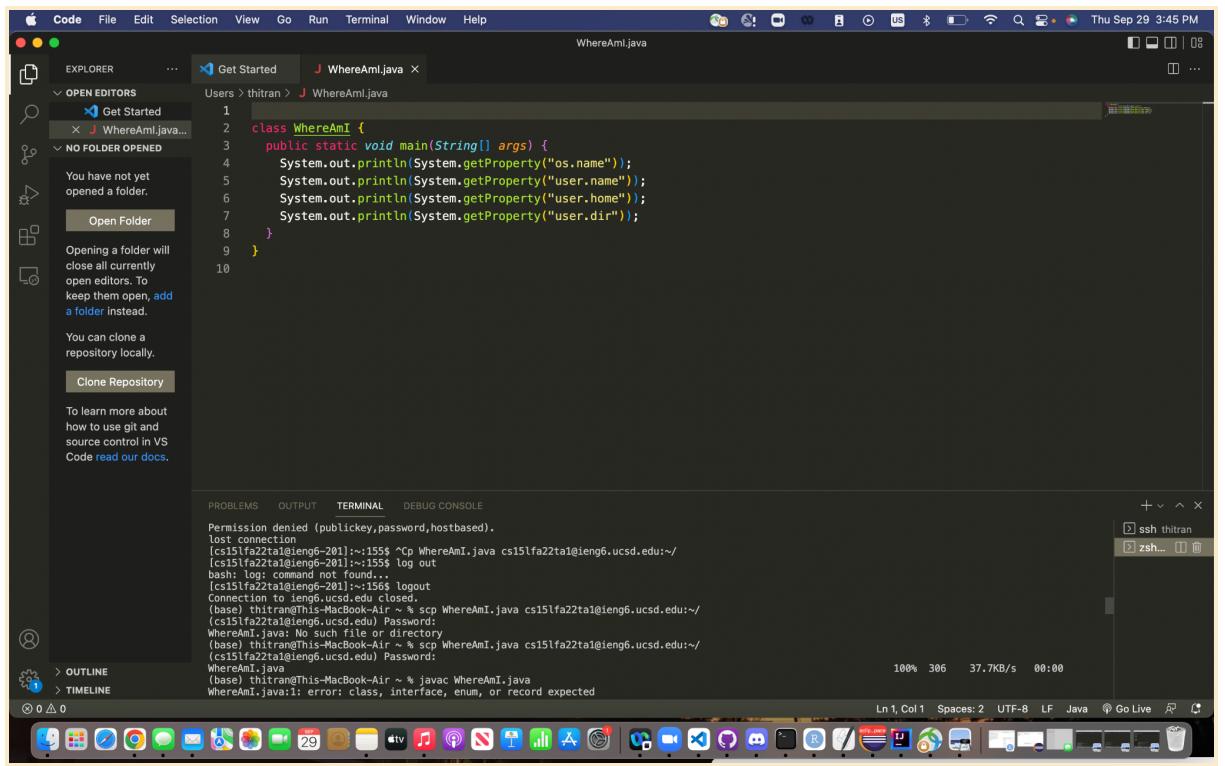
3. Trying Some Commands

After using the TA account, I was successfully connected. I input some commands into the terminal(using the example one that was provided). Below is the screenshot that I was able to run in the terminal.



4. Moving Files with `scp`

I couldn't be able to run the file at first because I was using the wrong username. Even though I corrected myself using the right username, I was not getting the correct files. After a while, I learned that I called the file within the same file(see below) which was why it was unsuccessful. After fixing those mistakes, I ran the program again and it worked.



The screenshot shows a Mac OS X desktop with VS Code open. The code editor displays a Java file named `WhereAmI.java` with the following content:

```
1 class WhereAmI {
2     public static void main(String[] args) {
3         System.out.println(System.getProperty("os.name"));
4         System.out.println(System.getProperty("user.name"));
5         System.out.println(System.getProperty("user.home"));
6         System.out.println(System.getProperty("user.dir"));
7     }
8 }
9
10
```

The terminal tab shows the following command and its output:

```
Permission denied (publickey,password,hostbased).
lost connection
[cs15lfa22ta1@ieng6-201]:~:1555 $ Cp WhereAmI.java cs15lfa22ta1@ieng6.ucsd.edu:~
[cs15lfa22ta1@ieng6-201]:~:1555 $ log out
[base] thiran: command not found
[cs15lfa22ta1@ieng6-201]:~:1555 $ logout
Connection to ieng6.ucsd.edu closed.
(base) thiran@This-MacBook-Air ~ % scp WhereAmI.java cs15lfa22ta1@ieng6.ucsd.edu:~
(base) thiran@This-MacBook-Air ~ % scp WhereAmI.java cs15lfa22ta1@ieng6.ucsd.edu:~
(base) thiran@This-MacBook-Air ~ % scp WhereAmI.java cs15lfa22ta1@ieng6.ucsd.edu:~
(base) thiran@This-MacBook-Air ~ % javac WhereAmI.java
WhereAmI.java:1: error: class, interface, enum, or record expected
WhereAmI.java
(base) thiran@This-MacBook-Air ~ %
```

The status bar at the bottom of the terminal shows: 100% 306 37.7KB/s 00:00.

5. Setting an SSH Key

First, I typed `ssh-keygen` on my terminal. Then, I clicked return one more time as I wanted to put a password on my terminal and it worked. While it was being saved, I typed `mkdir .ssh` in order to search if the files exist or not. As expected, it is located on my computer. I successfully set an SSH key that can use more in my future use.

The screenshot shows the VS Code interface on a Mac. The Explorer sidebar shows a folder named 'Get Started' and a file named 'WhereAmI.java'. The code editor shows the following Java code:

```

1 | class WhereAmI {
2 |     public static void main(String[] args) {
3 |         System.out.println(System.getProperty("os.name"));
4 |         System.out.println(System.getProperty("user.name"));
5 |         System.out.println(System.getProperty("user.home"));
6 |         System.out.println(System.getProperty("user.dir"));
7 |     }
8 | }
10

```

The terminal tab is active, showing an SSH session to a host named 'thitran'. The session starts with generating an RSA key:

```

(base) thitran@this-MacBook-Air ~ % ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/Users/thitran/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your public key has been saved in /Users/thitran/.ssh/id_rsa.
The key fingerprint is:
SHA256:3H9fPf6V7uMfHlbCUB2wHP74gv/s thitran@This-MacBook-Air.local
The key's randomart image is:
+----[SHA256]----+
|          . . . |
|          . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
+----[SHA256]----+

```

Then, the user runs the command 'ssh' to connect to the host:

```

(base) thitran@this-MacBook-Air ~ % ssh
ssh: command not found.
(base) thitran@this-MacBook-Air ~ % mkdir .ssh
mkdir: .ssh: File exists
(base) thitran@this-MacBook-Air ~ % ls
Desktop Federal Student Aid.pdf Pictures
Applications Practicecode.class Practicecode.java

```

6. Optimizing Remote Running

I run the ssh command using the given format. As a result, I only need to input a password into the terminal and it quickly runs into the file. I don't need to type long commands in order get into the file and server.

The screenshot shows the VS Code interface on a Mac. The Explorer sidebar shows a folder named 'Get Started' and a file named 'WhereAmI.java'. The code editor shows the same Java code as the previous screenshot.

The terminal tab is active, showing an SSH session to a host named 'thitran'. The session starts with generating an RSA key:

```

(base) thitran@this-MacBook-Air ~ % ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/Users/thitran/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your public key has been saved in /Users/thitran/.ssh/id_rsa.
The key fingerprint is:
SHA256:3H9fPf6V7uMfHlbCUB2wHP74gv/s thitran@This-MacBook-Air.local
The key's randomart image is:
+----[SHA256]----+
|          . . . |
|          . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
|          . . . . . |
+----[SHA256]----+

```

Then, the user runs the command 'ssh' to connect to the host:

```

(base) thitran@this-MacBook-Air ~ % ssh
You are using 8% CPU on this system
Cluster Status: #Users Load Average
Hostname      Time      #Users Load Average
zeng-282     15:20:05    15  0.89  0.86
zeng-282     15:20:05    15  0.87  0.87
length-283   15:20:01    23  0.81  0.84  0.85
(base) thitran@this-MacBook-Air ~ % 

```