

How to get my project 1 run?

We **strongly recommend** you to use our server (cs154.cs.uchicago.edu) to do all your projects. Try to use a virtual machine (VM) **only when your Internet connection is really unstable**. If you use the VM approach, **please perform a final test on cs154.cs.uchicago.edu to make sure you get the score**.

If you decide to use our server, here are the things you need to do

The most common way to connect to the server is through ssh. (If you prefer a desktop-like interface, try to use vdesk (<https://howto.cs.uchicago.edu/techstuff:vdesk>))

1. If your operating system is Ubuntu/MacOS/other Unix-based OS:

Open the terminal, and type

```
ssh CNetID@cs154.cs.uchicago.edu
```

replace CNetID with your own CNetID, and follow the prompt to login to the server. The password is your CNetID password.

2. If your operating system is Windows10:

Hit Windows+R and type powershell to open powershell. Then type

```
ssh CNetID@cs154.cs.uchicago.edu
```

replace CNetID with your own CNetID, and follow the prompt to login to the server. The password is your CNetID password.

If ssh is not installed on your computer (it might happen if your windows 10 is at an old version), install it.

3. If your operating system is Windows but not Windows10:

Download and install putty. This software is friendly but not that friendly, so please follow a tutorial to login to our server.

If you decide to use a VM, here are the things you need to do.

Generally, a VM allows you to use another operating system (in our case, Ubuntu) inside your current operating system (at a cost of running speed).

Download the VM

First, if you don't have a virtual machine software, please download and install virtual box (<https://www.virtualbox.org/wiki/Downloads>).

Then, check

<https://howto.cs.uchicago.edu/vm:install>

to download and install the uchicago VM.

Create new user

The default user of the VM is "CS Student". It will be very inconvenient when you use ssh/svn while the username is not your CNetID. So let's create a new user.

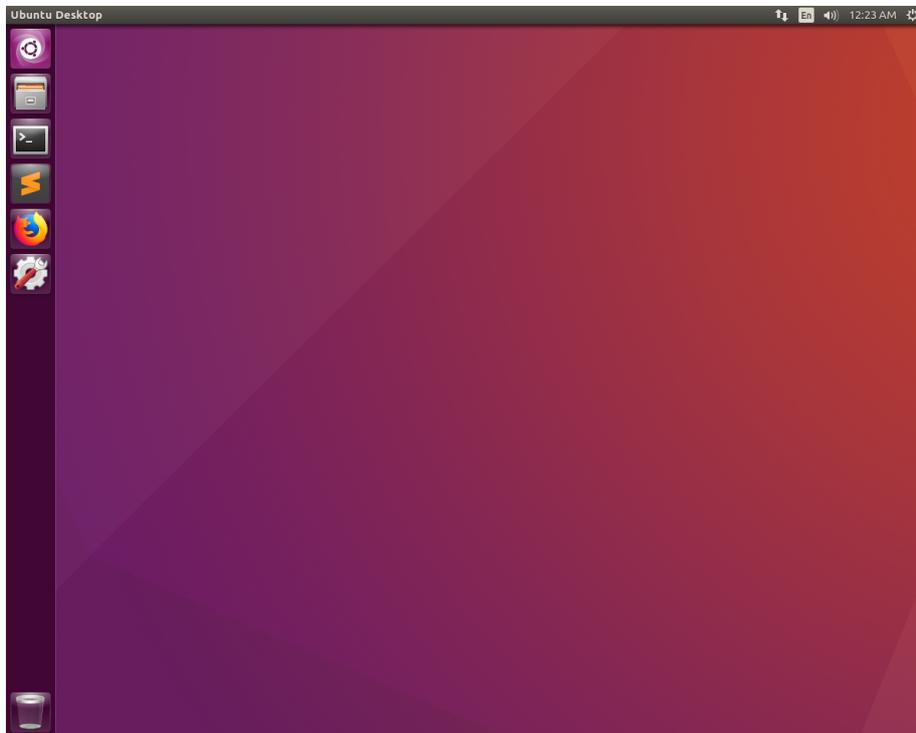
(Note: root users have the highest permission in a Linux OS. They can modify system settings, install software while other users typically can't (there are some workarounds for those user, but very tedious.))

After installation, start the VM. The username should be "CS Student". Use

```
uCCS
```

as the password to login.

After waiting for a short period of time, you should see the desktop:



Then right-click and choose "Open Terminal" to open the terminal.

First, use command

```
sudo adduser CNetID
```

and follow the prompt to create a user (remember to replace CNetID with your actual CNetID). Then use

```
sudo usermod -aG sudo CNetID
```

to make CNetID a root user.

After that, left-click the gear-like icon (at the upper-right part of the desktop) and switch to your new user named CNetID.

Install svn and download svn repo

The subversion (svn) is not installed in this VM. So let's install it. Type

```
sudo apt-get install subversion
```

to get svn installed.

Download the code for the project

First, type

```
cd ~
```

in command line to enter in the home directory.

Then, type

```
svn co https://phoenixforge.cs.uchicago.edu/svn/CNetID-  
cs154-spr-20/
```

(replace CNetID with your CNetID) and follow the prompt to download your repo. The password should be your CNetID password.

Type

```
cd CNetID-cs154-spr-20
```

to enter in the root of all your projects and labs.

Get a zero to make sure all dependencies are installed for project 1.

To make sure that all dependencies are correctly installed for project 1, try to get a zero :P

Under your `CNetID-cs154-spr-20` folder, type

```
cd p1bitmanip
```

to enter in the project 1. Then type

```
make
```

to compile the code. It should not report any error.

```
Terminal
kuntai@cs-vm: ~/kuntai-cs154-spr-20/p1bitmanip
kuntai@cs-vm:~/kuntai-cs154-spr-20$ cd p1bitmanip/
kuntai@cs-vm:~/kuntai-cs154-spr-20/p1bitmanip$ make
gcc -O -Wall -lm -o btest bits.c btest.c decl.c tests.c
gcc -O -Wall -o ishow ishow.c
kuntai@cs-vm:~/kuntai-cs154-spr-20/p1bitmanip$
```

After that, type

```
./driver.pl
```

And the final output will be

```
Terminal
kuntai@cs-vm: ~/kuntai-cs154-spr-20/p1bitmanip
0 3 1 0 0 addOK
0 2 1 0 0 allEvenBits
0 4 1 0 0 bang
0 4 1 0 0 bitCount
0 1 1 0 0 bitNor
0 2 1 0 0 byteSwap
0 3 1 0 0 conditional
0 3 1 0 0 ezThreeFourths
0 2 1 0 0 fitsBits
0 2 1 0 0 getByte
0 4 1 0 0 greatestBitPos
0 2 1 0 0 implication
0 3 1 0 0 isAsciiDigit
0 2 1 0 0 isEqual
0 3 1 0 0 isLess
0 3 1 0 0 isNonNegative
0 4 1 0 0 isPower2
0 1 1 0 0 isTmin
0 1 1 0 0 minusOne
0 3 1 0 0 rotateLeft
0 3 1 0 0 satMul2

Score = 0/103 [0/59 Corr + 0/44 Perf] (0 total operators)
kuntai@cs-vm:~/kuntai-cs154-spr-20/p1bitmanip$
```

Now, you have all your dependencies installed for project 1.