Linux (Ubuntu)

after install much like windows without the polish (for instance pinta, my MSpaint replacement, does not have a print function, openOffice and Libreoffice are not as good as MS Office). Desktop icons are a bit of a pain to make.

But its very fast, free, very customizable (different types of linux, different window managers (or none for servers) , setup for client use or server use, can be run from just the command line (very low demand on your video card then) so you can ssh in to a remote machine and run the OS through a very fast terminal (just a few chars back and forth over the wire verses streaming all the graphics of a window manager over the wire (remote desktop type of thing)).

Software install (need to be superuser (root), so most of the following needs to be preceded by sudo)
Can get/install programs directly(like eclipse) but usually go through package managers, the software may be a little older than latest and greatest but its easier to install)
The following is from http://www.control-escape.com/linux/lx-swinstall.html

Debian, Ubuntu: APT

There is a broad array of tools for working with DEB packages, but the one you will commonly use is `apt-get`, arguably the easiest of Linux package management tools. `apt-get`is so easy because it not only keeps track of what packages are installed, but also what other packages are available. It will even download them from the Internet for you (if properly configured).

```
apt-get install ${packagename}
```

To remove software is just as easy.

```
apt-get remove ${packagename}
```

Although the repositories that contain installable packages might live on the Internet or on a disc somewhere, APT keeps a local database on your hard drive with a list of all available packages and where to find them. This database needs to be explicitly updated. To update the APT database:

```
apt-get update
```

A common idiom is to update your package database, and then upgrade all the packages that have patches or security updates to install. The following command will do this all at once.

```
apt-get update; apt-get upgrade
```

For a more indepth `apt-get` tutorial and other resources, see ***Managing Software with APT and dpkg***.

Open terminal (can do everything from here)
Ctrl-alt-T

Environmental vars
echo $PATH #where the os looks for executables and other stuff if you do not specify a path

some commands
cd (dirname) #change directory
cd ~ #go to home dir /home/keith for me
ls –la #directory listing with permisions, owners, hidden files
find –name filename
df #disk usage
ps –e #all running processes
kill processnumber #from ps –e, choose process number and kill with this command
alias #way to simplify complex commands (demo alias and cd327)

especially useful stuff
locate
which
whatis
whereis
./executableprogram #run program from current dir

See linux tutorials on course home page for help. My advice, just start using it, over time you will learn all this stuff.

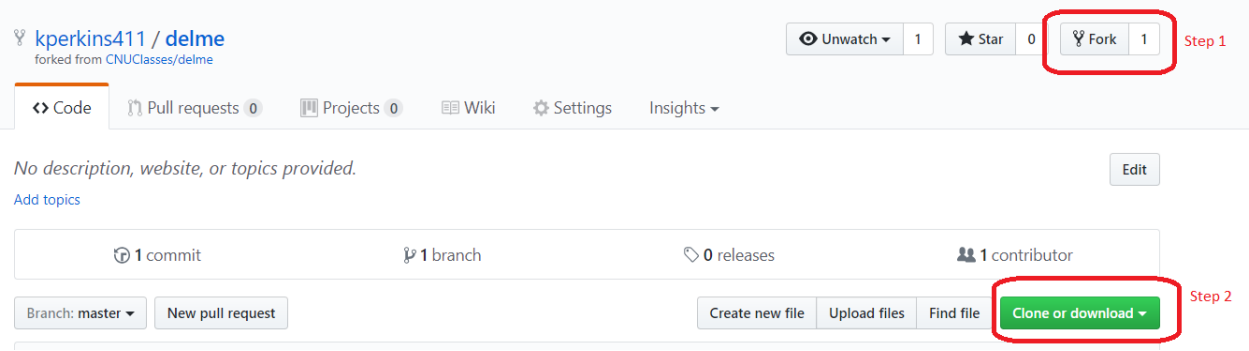
Git

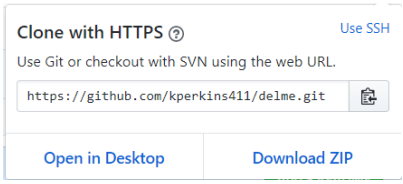
*See course **website** for simple guide to git*

Git keeps a local copy and remote copy, manages most of merges for you, very fast. You will use version control at your job, probably git, learn it now. This section follows an in class demo

Workflow (pull from my repo at github.com to your github.com account)

First fork the repo, then clone





Use above link to get a local copy

On your local machine,

mkdir delme #create a directory for the repo any name will do

git clone https://github.com/kperkins411/delme.git #make a local copy of remote repo

Workflow (create your own local repo, push to your github.com)

git init #now have a local repo with .git file

touch .gitignore #put all the files/dirs. You want to ignore in here

git remote –v #connected to a remote? not yet

#go and create a remote repo, I created one at github called delme with url

#https://github.com/CNUClasses/delme.git

#now tie local repo to remote

git remote add origin https://github.com/CNUClasses/delme.git

Workflow (change local repo, push to your github.com repo)

#create a local file

touch file

git status #see gits view of things

git add file #or use interactive (great if you have many files that you cannot filter with .gitignore)

git add –i

#probably use update (2) and add untracked the most(4)

#just choose the files you want to add from list, then hit return on empty line the quit

#presto you have a staged change to commit, but its not in yet

git status

git commit –m “informative message” #makes local repo changes

git log --oneline #what have I commuted

git push origin master #pushes those changes to remote

#you will be asked for remotes (github in this case)userid and password

which is a pain to type again and again if you are making many commits

#if you would like to cache credentials look into git credential store

In depth tutorial at bitbucket (along with free private repos)

https://www.atlassian.com/git/tutorials/learn-git-with-bitbucket-cloud