Math 4610 Lecture Notes

A Brief Introduction to Git Usage *

Joe Koebbe

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Git Primer for Math 4610 at USU: What is 'git'?

Version Control Systems (VCS) have been around for a long time. A VCS allows one or more developers the ability to create software and then modify and test code without losing the production level version of the code. So, if a production code exists for simulation of ice sheets in the artic ocean, a developer can add to or modify the code without destroying a code that has been up and running. Instead, a good VCS will allow the developer to modify/fix the production code using a separate branch. Once the modifications have been tested and are stable the changes can be merged with the production level code.
Another advantage of VCS involves the development of codes intended to solve complicated problems where a number of developers are all contributing to the production level code. In fact, there may be groups of developers working on disjoint parts of a production level code. If two developers are working on one function or option to a code, they may come up with competing codes that both cannot be implemented. So, a means to merge the ideas back together into the production level code. VCS provide a structure for doing this.
In this course we will use "/ git". This VCS has been used in the development and implementation of the Unix kernel that many programmers have come to know and love. The use of git in this course will be to allow students to work locally and communicate seamlessly with the repositroies on Github.
This primer will provide students with a starting point for using git.

Git Primer for Math 4610 at USU: What is 'git'?

First, let's find git on a computer before figuring out how to use this. Open a command window, say a Cygwin terminal, and type in the following command at the prompt.

```
which git
```

Optimally, you should see the following returned.

```
/bin/git
```

If the software is not installed, an error message that lets you know that the command cannot be found. Note that an additional command is entered in the figure below to determine the version of the software that will be run when the git command is executed.