EEB603_GitTutorial

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Part One: Introduction and Installation

1. Introduction: Why Git and GitHub?

What's the difference between Git and GitHub.

Git is a **version control system** that is like a supped up version of the "Track Changes" feature within Microsoft Word. Git allows the different collaborators on a project to track changes and revert to older versions if needed.

GitHub is a cloud based platform built around Git that stores code ***pushed*** to it from a computer that uses Git.

2. Register for a GitHub Account

If you do not currently have a GitHub account then you will register for one today! If you already have a GitHub account, sit back and relax while your classmates get set up.

1. Go to https://github.com
2. Pick a username that incorporates your actual name. Enter an email and create a password.
3. Select a plan: Free is all you will likely need.
4. (optional) Answer a few questions about your code skill level, plans for using GitHub, and lost some interests.
5. You'll get a verification email.
6. When you click the link from the Verification you will be taken to your new GitHub account with the option to create your first repository or *repo*. Do not make one yet. We will come back to that.

3. Upgrade R and RStudio

We all have R and RStudio on our own computers by now, but here you can check your version and upgrade if needed.

```
R.version.string
```

```
## [1] "R version 3.6.1 (2019-07-05)"
```

If you would like to update your current R packages you can use the following command:

4. Install Git

Open up the terminal or shell and check to see if you already git installed.

```
which git
git --version
```

```
## /usr/bin/git
## git version 2.20.1 (Apple Git-117)
```

4.1 Windows Installation

There are two options for Windows installation: **Option 1** : install Git for Windows (https://gitforwindows.org), aka *msysgit* or "Git Bash", which will provide Git as well as a Bash shell.

*side note on shells/terminal/bash. Windows OS doesn't provide a shell terminal. Shell refers to an early (1970s) command-line interpreter for Unix shell. Bash (**B**ourne **a**gain **sh**ell) is the command-line interpreter for GNU (**g**nu **n**ot **u**nix) OS. It's all still very confusing, just know that bash is largely compatible with shell, and that for many Git commands the "Git Bash" shell/terminal will need to be used.*

4.2 macOS Installation

5. Bonjour Git, enchante

6. Optional: Install a Git client

9. Connect to GitHub

###Make a repo

Here, we are just making sure we can push and pull and everyone is communicating.

1. Head to https://github.com/ and check that you're still logged in
2. Click on the green "New" button or click on "Repositories" on your profile page and then click on the "New" button.

3. Fill in:

Repository name

Description: something for the README file

Public (for now)

and then YES initilize the repo with a README

For everything else, select default.

4. Click "Create repository"
5. Copy the HTTP clone URL to your clipboard via green "Clone or Download" button