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GitHub Tutorial

GitHub is a code hosting platform for version control and collaboration; in a way, it is a “cloud” for code. It allows the user and others to work together on projects from anywhere. It is a web-based Git (a version control system for tracking changes in computer files). The platform’s development stage began in October of 2007 by Tom Preston-Werner, Chris Wanstrath, and PJ Hyett. The site launched later in April 2008. GitHub made hosting and managing software projects much easier for coders; all on one website. GitHub gives its users the ability to access projects and manipulate them using the standard Git command-line interface. The platform features social networking elements such as feeds, followers, wikis, and a social network graph, in order to display how projects develop on the site. Other similar platforms that exist are GitLab, BitBucket, and SourceForge.

**Git & GitHub Terms** (definitions taken from <https://help.github.com/articles/github-glossary/>)**:**

**Repository**

A repository is the most basic element of GitHub. They're easiest to imagine as a project's folder. A repository contains all of the project files (including documentation), and stores each file's revision history. Repositories can have multiple collaborators and can be either public or private.

**Commit**

A commit, or "revision", is an individual change to a file (or set of files). It's like when you *save* a file, except with Git, every time you save it creates a unique ID (a.k.a. the "SHA" or "hash") that allows you to keep record of what changes were made when and by who. Commits usually contain a commit message which is a brief description of what changes were made.

**Push**

Pushing refers to sending your committed changes to a remote repository, such as a repository hosted on GitHub. For instance, if you change something locally, you'd want to then *push* those changes so that others may access them.

**Branch**

A branch is a parallel version of a repository. It is contained within the repository, but does not affect the primary or master branch allowing you to work freely without disrupting the "live" version. When you've made the changes you want to make, you can merge your branch back into the master branch to publish your changes.

**Fork**

A fork is a personal copy of another user's repository that lives on your account. Forks allow you to freely make changes to a project without affecting the original. Forks remain attached to the original, allowing you to submit a pull request to the original's author to update with your changes. You can also keep your fork up to date by pulling in updates from the original.

**Merge**

Merging takes the changes from one branch (in the same repository or from a fork), and applies them into another. This often happens as a pull request (which can be thought of as a request to merge), or via the command line. A merge can be done automatically via a pull request via the GitHub web interface if there are no conflicting changes, or can always be done via the command line.

**Clone**

A clone is a copy of a repository that lives on your computer instead of on a website's server somewhere, or the act of making that copy. With your clone you can edit the files in your preferred editor and use Git to keep track of your changes without having to be online. It is, however, connected to the remote version so that changes can be synced between the two. You can push your local changes to the remote to keep them synced when you're online.

**Pull**

Pull refers to when you are fetching *in* changes *and* merging them. For instance, if someone has edited the remote file you're both working on, you'll want to *pull* in those changes to your local copy so that it's up to date.

**Pull request**

Pull requests are proposed changes to a repository submitted by a user and accepted or rejected by a repository's collaborators. Like issues, pull requests each have their own discussion forum.

**Part 7:**

In order to update the readme file (README.md) on <https://github.com/paceuniversity/courses> , I forked the entire repository, and then edited the file myself. After making the change to the file, I initiated a Pull Request to the original repository, by comparing my forked repository.