GIT BASICS

git init *<directory>*	Create empty Git repo in specified directory. Run with no arguments to initialize the current directory as a git repository.
git clone <repo>	Clone repo located at *<repo>* onto local machine. Original repo can be located on the local filesystem or on a remote machine via *HTTP* or *SSH*.
git config *user.name <name>*	Define author name to be used for all commits in current repo. Devs commonly use *--global* flag to set config options for current user.
git add *<directory>*	Stage all changes in *<directory>* for the next commit. Replace *<directory>* with a *<file>* to change a specific file.
git commit -m *"<message>"*	Commit the staged snapshot, but instead of launching a text editor, use *<message>* as the commit message.
git status	List which files are staged, unstaged, and untracked.
git log	Display the entire commit history using the default format. For customization see additional options.
git diff	Show unstaged changes between your index and working directory.

UNDOING CHANGES

git revert *<commit>*	Create new commit that undoes all of the changes made in *<commit>*, then apply it to the current branch.
git reset <file>	Remove *<file>* from the staging area, but leave the working directory unchanged. This unstages a file without overwriting any changes.
git clean -n	Shows which files would be removed from working directory. Use the *-f* flag in place of the *-n* flag to execute the clean.

REWRITING GIT HISTORY

git commit *--amend*	Replace the last commit with the staged changes and last commit combined. Use with nothing staged to edit the last commit's message.
git rebase <base>	Rebase the current branch onto *<base>*. *<base>* can be a commit ID, branch name, a tag, or a relative reference to *HEAD*.
git reflog	Show a log of changes to the local repository's *HEAD*. Add *--relative-date* flag to show date info or *--all* to show all refs.

GIT BRANCHES

git branch	List all of the branches in your repo. Add a *<branch>* argument to create a new branch with the name *<branch>*.
git checkout -b *<branch>*	Create and check out a new branch named *<branch>*. Drop the *-b* flag to checkout an existing branch.
git merge <branch>	Merge *<branch>* into the current branch.

REMOTE REPOSITORIES

git remote add *<name> <url>*	Create a new connection to a remote repo. After adding a remote, you can use *<name>* as a shortcut for *<url>* in other commands.
git fetch *<remote> <branch>*	Fetches a specific *<branch>*, from the repo. Leave off *<branch>* to fetch all remote refs.
git pull <remote>	Fetch the specified remote's copy of current branch and immediately merge it into the local copy.
git push *<remote> <branch>*	Push the branch to *<remote>*, along with necessary commits and objects. Creates named branch in the remote repo if it doesn't exist.

GIT CONFIG

git config --global user.name <name>	Define the author name to be used for all commits by the current user.
git config --global user.email <email>	Define the author email to be used for all commits by the current user.
git config --global alias. <alias-name> <git-command>	Create shortcut for a Git command. E.g. *alias.glog "log --graph --oneline"* will set *"git glog"* equivalent to *"git log --graph--oneline.*
git config --system core.editor <editor>	Set text editor used by commands for all users on the machine. *<editor>* arg should be the command that launches the desired editor (e.g., vi).
git config --global --edit	Open the global configuration file in a text editor for manual editing.

GIT LOG

git log -<limit>	Limit number of commits by *<limit>* . E.g. *"git log -5"* will limit to 5 commits.
git log --oneline	Condense each commit to a single line.
git log -p	Display the full diff of each commit.
git log --stat	Include which files were altered and the relative number of lines that were added or deleted from each of them.
git log --author= "<pattern>"	Search for commits by a particular author.
git log --grep="<pattern>"	Search for commits with a commit message that matches *<pattern>* .
git log <since>..<until>	Show commits that occur between *<since>* and *<until>* . Args can be a commit ID, branch name, *HEAD* , or any other kind of revision reference.
git log -- <file>	Only display commits that have the specified file.
git log --graph --decorate	*--graph* flag draws a text based graph of commits on left side of commit msgs. *--decorate* adds names of branches or tags of commits shown.

GIT DIFF

git diff HEAD	Show difference between working directory and last commit.
git diff --cached	Show difference between staged changes and last commit

GIT RESET

git reset	Reset staging area to match most recent commit, but leave the working directory unchanged.
git reset --hard	Reset staging area and working directory to match most recent commit and **overwrites all changes** in the working directory.
git reset <commit>	Move the current branch tip backward to *<commit>* , reset the staging area to match, but leave the working directory alone.
git reset --hard <commit>	Same as previous, but resets both the staging area & working directory to match. **Deletes** uncommitted changes, and **all commits after** *<commit>.*

GIT REBASE

git rebase -i <base>	Interactively rebase current branch onto *<base>* . Launches editor to enter commands for how each commit will be transferred to the new base.

GIT PULL

git pull --rebase <remote>	Fetch the remote's copy of current branch and rebases it into the local copy. Uses git rebase instead of merge to integrate the branches.

GIT PUSH

git push <remote> --force	Forces the *git push* even if it results in a non-fast-forward merge. Do not use the *--force* flag unless you're absolutely sure you know what you're doing.
git push <remote> --all	Push all of your local branches to the specified remote.
git push <remote> --tags	Tags aren't automatically pushed when you push a branch or use the *--all* flag. The *--tags* flag sends all of your local tags to the remote repo.