git --print-out

Git Cheat Sheet

Getting Started

Start a new repo:

```
git init
```

Clone an existing repo:

```
git clone <url>
```

Prepare to Commit

Add untracked file or unstaged changes:

```
git add <file>
```

Add all untracked files and unstaged changes:

```
git add .
```

Choose which parts of a file to stage:

```
git add -p
```

Move file:

```
git mv <old> <new>
```

Delete file:

```
git rm <file>
```

Tell Git to forget about a file without deleting it:

```
git rm --cached <file>
```

Unstage one file:

```
git reset <file>
```

Unstage everything:

```
git reset
```

Check what you added:

```
git status
```

Make Commits

Make a commit (and open text editor to write message):

```
git commit
```

Make a commit:

```
git commit -m 'message'
```

Commit all unstaged changes:

```
git commit -am 'message'
```

Move Between Branches

Switch branches:

```
git switch <name>
```

OR

```
git checkout <name>
```

Create a branch:

```
git switch -c <name>
```

OR

```
git checkout -b <name>
```

List branches:

```
git branch
```

List branches by most recently committed to:

```
git branch --sort=-committerdate
```

Delete a branch:

```
git branch -d <name>
```

Force delete a branch:

```
git branch -D <name>
```

Diff Staged/Unstaged Changes

Diff all staged and unstaged changes:

```
git diff HEAD
```

Diff just staged changes:

```
git diff --staged
```

Diff just unstaged changes:

```
git diff
```

Diff Commits

Show diff between a commit and its parent:

```
git show <commit>
```

Diff two commits:

```
git diff <commit> <commit>
```

Diff one file since a commit:

```
git diff <commit> <file>
```

Show a summary of a diff:

```
git diff <commit> --stat
git show <commit> --stat
```

Ways to refer to a commit

Every time we say `<commit>`, you can use any of these:

★ **a branch**	`main`
★ **a tag**	`v0.1`
★ **a commit ID**	`3e887ab`
★ **a remote branch**	`origin/main`
★ **current commit**	`HEAD`
★ **3 commits ago**	`HEAD^^^ or HEAD~3`

Discard Your Changes

Delete unstaged changes to one file:

```
git checkout <file>
```

Delete all staged and unstaged changes to one file:

```
git checkout HEAD <file>
```

Delete all staged and unstaged changes:

```
git reset --hard
```

Delete untracked files:

```
git clean
```

'Stash' all staged and unstaged changes:

```
git stash
```

Edit History

"Undo" the most recent commit (keep your working directory the same):

```
git reset HEAD^
```

Squash the last 5 commits into one:

```
git rebase -i HEAD~6
```

Then change "pick" to "fixup" for any commit you want to combine with the previous one

Undo a failed rebase:

```
git reflog BRANCHNAME
```

Then manually find the right commit ID in the reflog, then run:

```
git reset --hard <commit>
```

Change a commit message (or add a file you forgot):

```
git commit --amend
```

Code Archaeology

Look at a branch's history:

```
git log main
```

```
git log --graph main
```

```
git log --oneline
```

Show every commit that modified a file:

```
git log <file>
```

Show every commit that modified a file, including before it was renamed:

```
git log --follow <file>
```

Find every commit that added or removed some text:

```
git log -G banana
```

Show who last changed each line of a file:

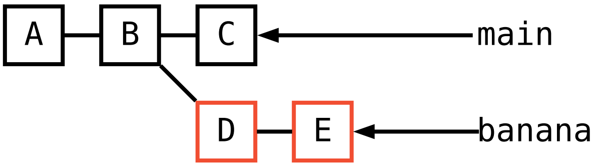
```
git blame <file>
```

Combine Diverged Branches

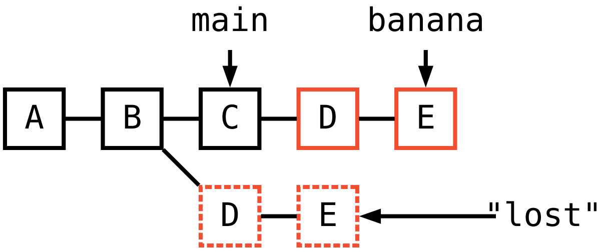
Combine with rebase:

```
git switch banana
git rebase main
```

Before:



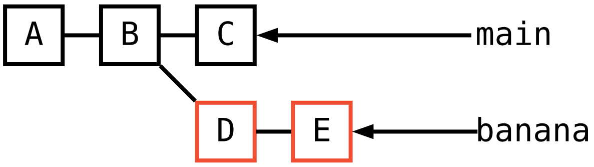
After:



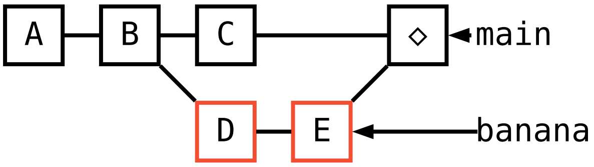
Combine with merge:

```
git switch main
git merge banana
```

Before:



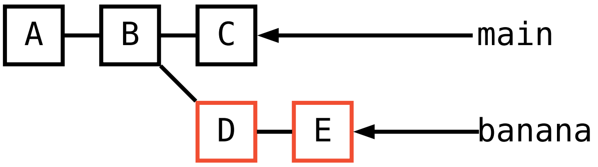
After:



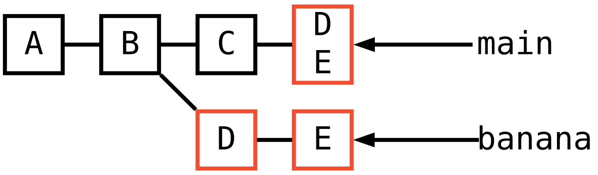
Combine with squash merge:

```
git switch main
git merge --squash banana
git commit
```

Before:



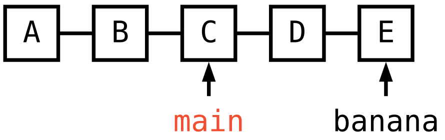
After:



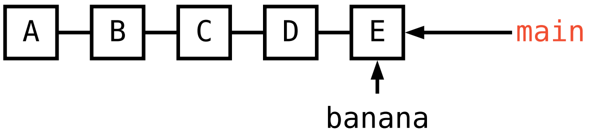
Bring a branch up to date with another branch (aka "fast-forward merge"):

```
git switch main
git merge banana
```

Before:



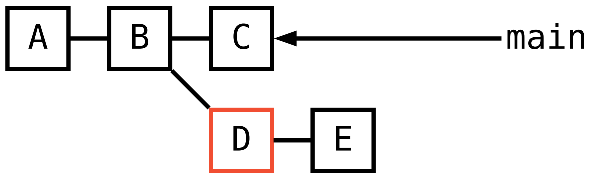
After:



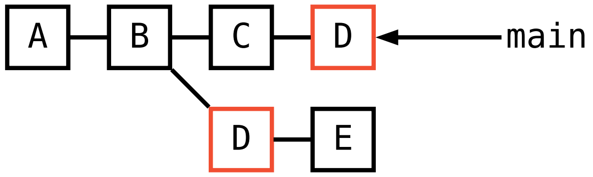
Copy one commit onto the current branch:

```
git cherry-pick <commit>
```

Before:



After:



Restore an Old File

Get the version of a file from another commit:

```
git checkout <commit> <file>
```

OR

```
git restore <file> --source
<commit>
```

Add a Remote

```
git remote add <name> <url>
```

Push Your Changes

Push the `main` branch to the remote `origin`:

```
git push origin main
```

Push the current branch to its remote "tracking branch":

```
git push
```

Push a branch that you've never pushed before:

```
git push -u origin <name>
```

Force push:

```
git push --force-with-lease
```

Push tags:

```
git push --tags
```

Pull Changes

Fetch changes (but don't change any of your local branches):

```
git fetch origin main
```

Fetch changes and then rebase your current branch:

```
git pull --rebase
```

Fetch changes and then merge them into your current branch:

```
git pull origin main
```

OR

```
git pull
```

Fetch all branches:

```
git fetch --all
```

Configure Git

Set a config option:

```
git config user.name 'Your
Name'
```

Set option globally:

```
git config --global ...
```

Add an alias:

```
git config alias.st status
```

See all possible config options:

```
man git-config
```

Important Files

Local git config:

```
.git/config
```

Global git config:

```
~/.gitconfig
```

List of files to ignore:

```
.gitignore
```