

# Git & GitHub

## Cheat sheet

### Terminology

repository	git's data structure, stores the history of commits of tracked files in a working directory
commit	take a snapshot of the working directory
	add changes of staged files to the history of the current branch
stage	select files whose changes are part of the next commit
branch	an independent version of the repository with its own history that allows parallel workflows
merge	combine histories of two branches
HEAD	name of the latest commit on a branch
remote	an online 'sibling' of a local repository, usually named <b>origin</b>
push	upload latest commits of a local branch to a remote branch
fetch	download new changes from remote
pull	fetch remote commits and update local branch and working directory
fork	make a copy of a remote repository
clone	download remote repository and link it to a local repository
pull request	ask if it is ok to merge a branch into the main branch in a collaborative remote repository
.gitignore	a plain text file that defines file types (e.g. *.csv), subdirectories (e.g. ./subject_data/) or specific files (e.g. .Rhistory) to be excluded from staging

## Merge conflict

The same line(s) have been changed on the merged branch and the merge target. Indicated through **conflict markers**.

**Resolve** by deleting the whole conflict marker except from the line(s) to keep and committing the change.

```
● ● ● VC_Workshop_Demo1 - my_file.txt
1 A first line of text.
2 <<<<< HEAD
3 A different line on main branch!
4 =====
5 A conflicting new second line on secondary branch! :o
6 >>>>> new_feature
7
```



```
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1 A first line of text.
2 A different line on main branch!
3
```