Introduction to

What is git?

- *Decentralised* version control system
- Easy to use
- Easy to use with external services, e.g. GitHub

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Linus Torvalds:

"I'm an egotistical bastard, and I name all my projects after myself. First 'Linux', now 'git'".

Definition of GIT
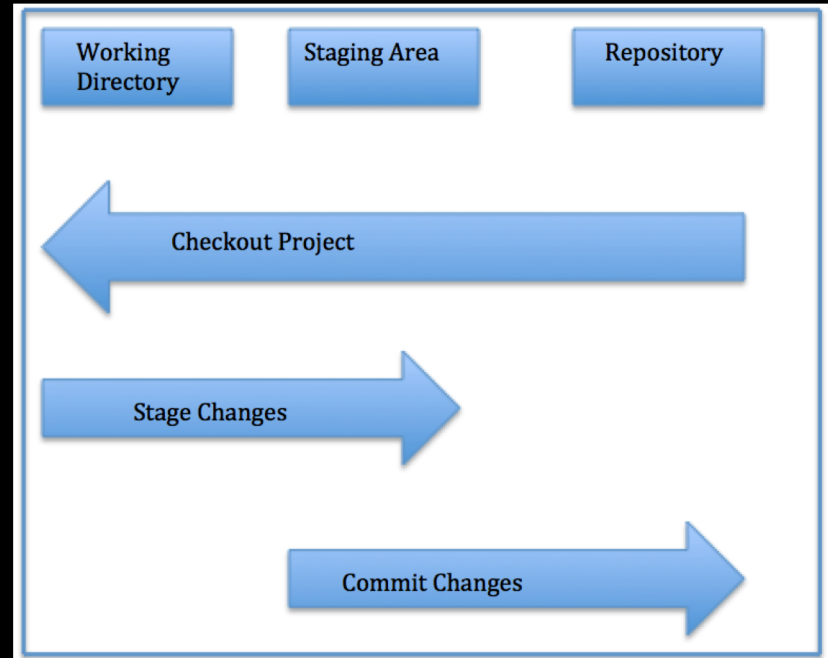
Merriam-Webster

British
: a foolish or worthless person

Git workflow

- Tell git a file is interesting

- Tell git about the file

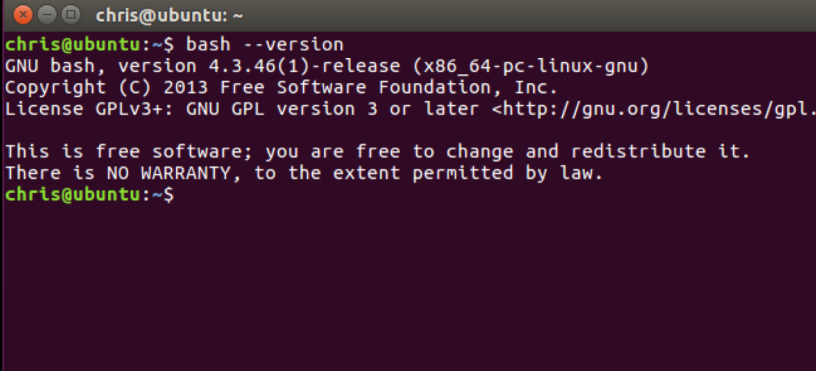- Update git to include the new file

Git workflow

- Tell git a file is intersting

- Tell git about the file

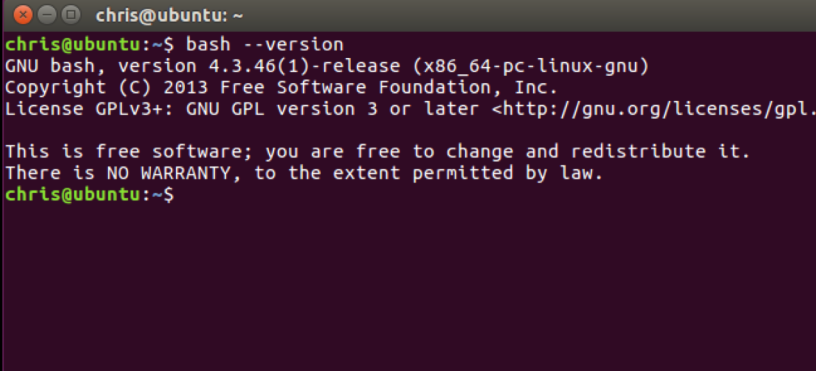- Update git to include the new file

Starting from scratch

- $ git init
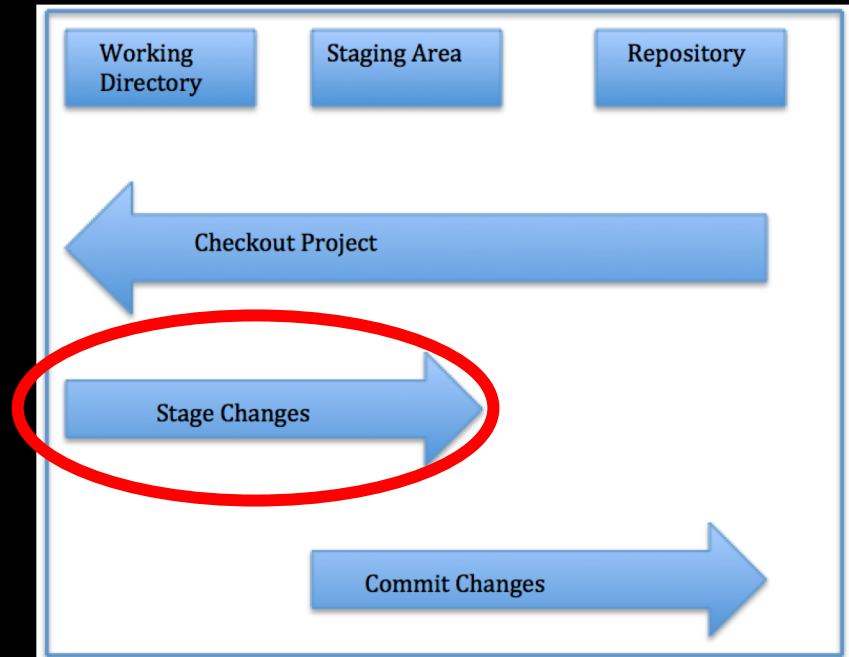
$ git status

- git status is your friend!

Adding files

- git add

$ Copy simple_python_script.py to your folder.

$ git status

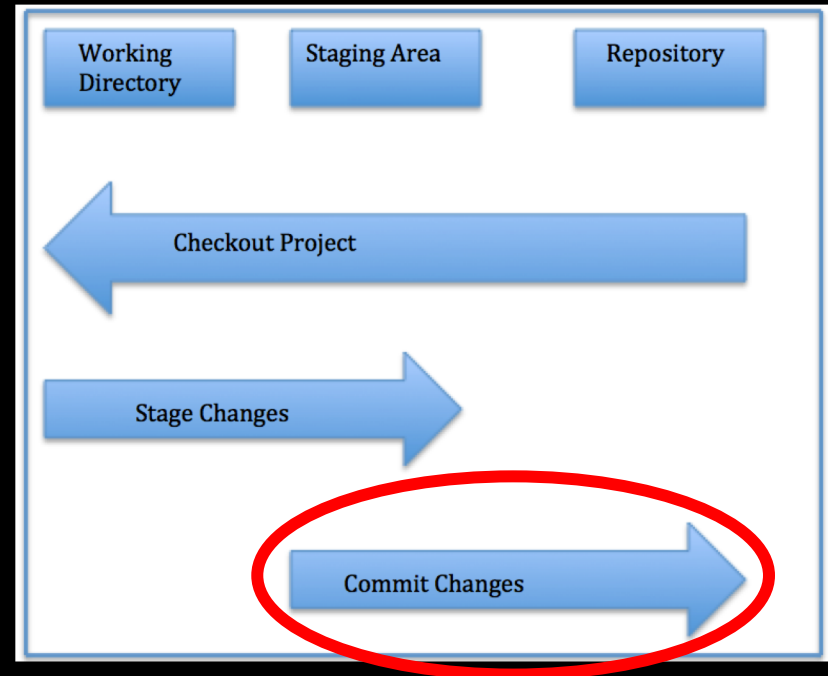$ git add simple_python_script.py

$ git status

git commit

- git commit: a short description of what has changed.

$ git commit –m "Added file"

$ git status

What is a good commit message?

- Descriptive of the change, not the change itself, people can read the code.

- Blog on writing git commit message: https://chris.beams.io/posts/git-commit/

	COMMENT	DATE
○	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO
○	ENABLED CONFIG FILE PARSING	9 HOURS AGO
○	MISC BUGFIXES	5 HOURS AGO
○	CODE ADDITIONS/EDITS	4 HOURS AGO
○	MORE CODE	4 HOURS AGO
○	HERE HAVE CODE	4 HOURS AGO
○	AAAAAAAA	3 HOURS AGO
○	ADKFJSLKDFJSDKLFJ	3 HOURS AGO
○	MY HANDS ARE TYPING WORDS	2 HOURS AGO
○	HAAAAAAAAANDS	2 HOURS AGO

AS A PROJECT DRAGS ON, MY GIT COMMIT MESSAGES GET LESS AND LESS INFORMATIVE.

https://xkcd.com/1296/

git log: show the history of the git repo

$ git log
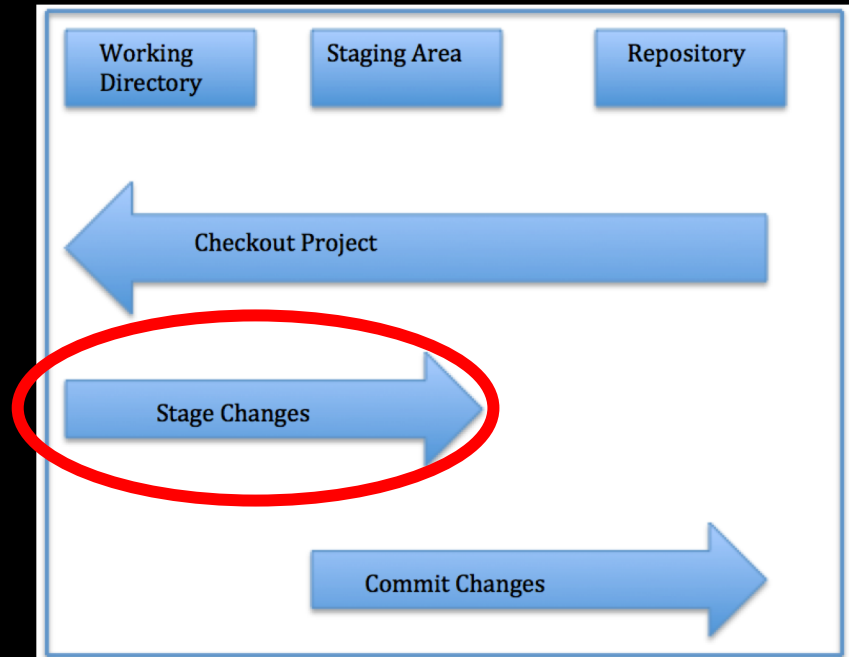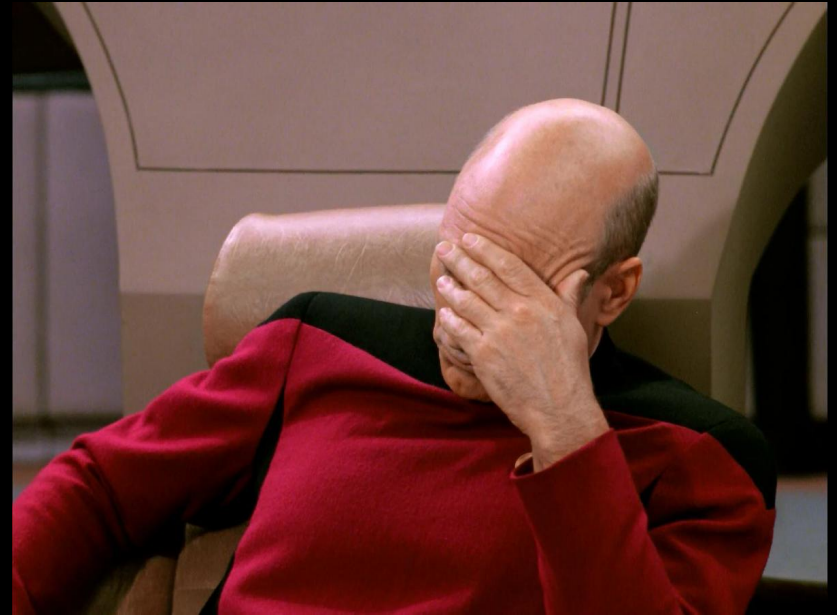
Correct wrong import name in python script.

- Numpy is imported as "nmp" not "np" as it should be.

$ Use an editor and change nmp to np in line 9

$ git status

git diff: what has changed?

- git diff will show the difference(s) between the latest committed file(s) and the changed file(s)

$ git diff

Change print statement and commit file

- The python file in line 15 does not have "()" around "random_numbers" change that.

- Add, commit etc

Change the number of random numbers generated with the "numbers" parameter
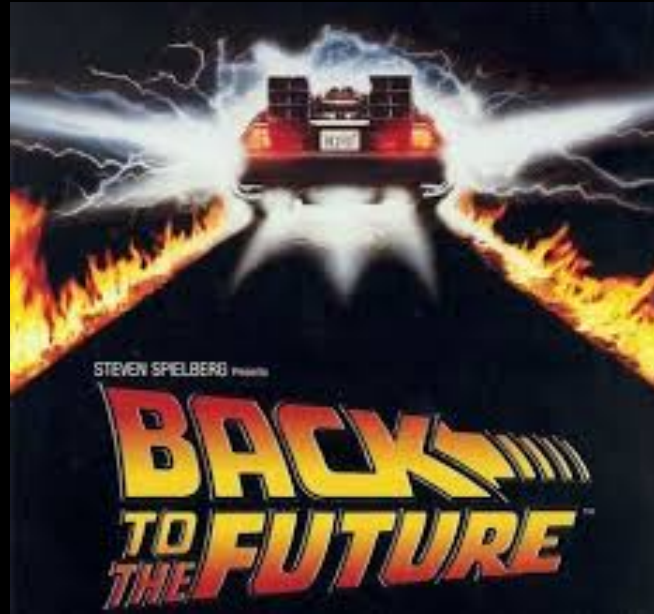
- The parameter "numbers" line 11, set the number of random numbers generated. Change that to a new number.

- Add, commit etc

Revert a change

- git tracks the changes for each "commit"
- Revert to a previous stage of file

$ git log --oneline

$ git checkout 4b095cb simple_python_script.py

Whitespaces: yes they matter!

- Whitespace are tracked by git!

- **Definition: white space** is any character or series of characters that represent horizontal or vertical space in typography

Whitespaces: yes they matter!

- Whitespace are tracked by git!
- In line 17 there are trailing whitespaces, remove them

$ git status

$ git diff

- **Definition: white space** is any character or series of characters that represent horizontal or vertical space in typography
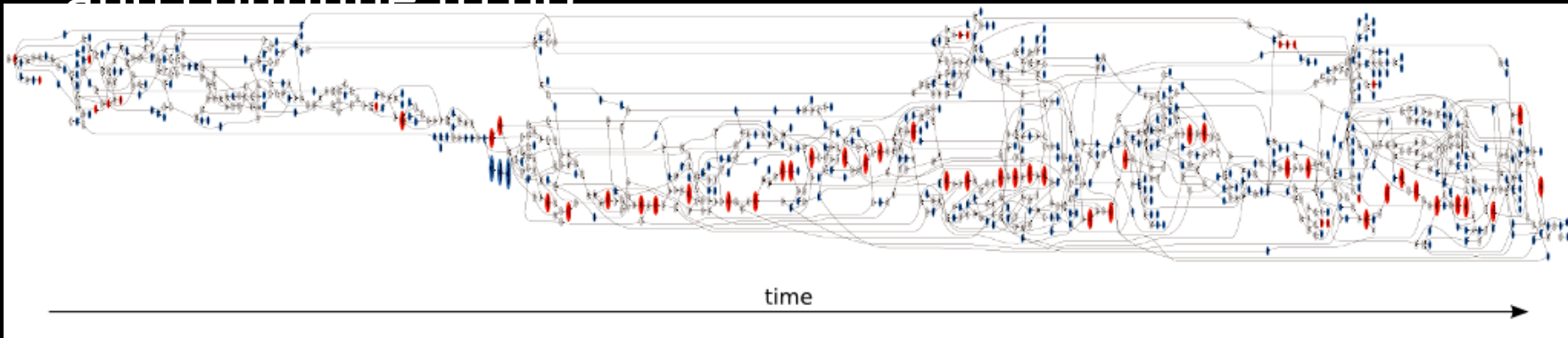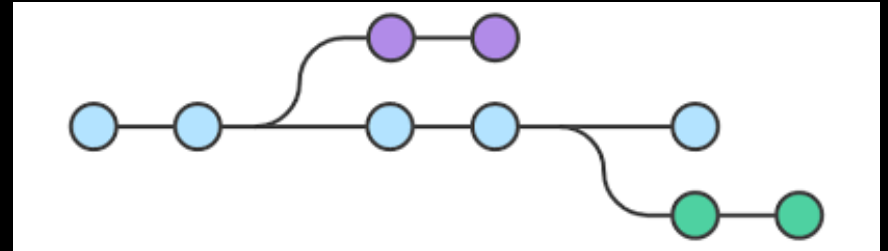
Branches

- Branches are one of git's strengths.
- Branching means you diverge from the main line of development and continue to do work without messing with that main line git status
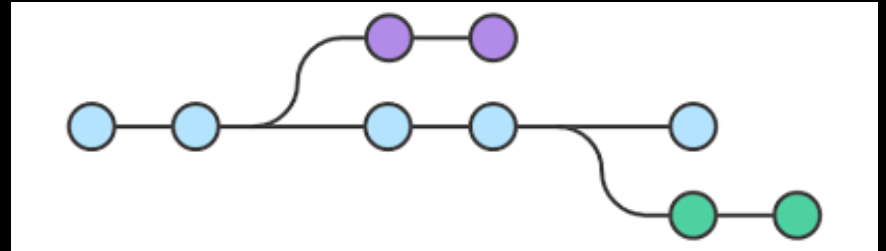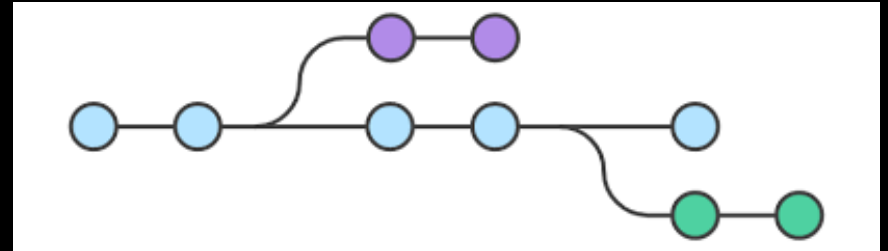
Branches

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- Branching means you diverge from the main line of development and continue to do

time

Make a new branch

$ git checkout -B n_100

$ git branch

- "master" is special!
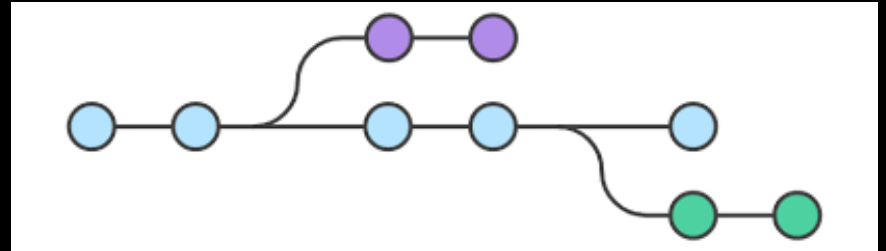
Switching between branches

$ git checkout n_100

$ git status

$ git checkout master

$ git status

Switching between branches: files

$ git checkout n_100
    simple_python_script.py

$ git status

$ git merge n_100

$ git status