Concept Map

Legend:
- type-of
- part-of
- operates-on

- Git
- repository
- commit
- Clone
- log
- diff

other
other
☑ operates-on
other

Original File	Output of diff -u	Final File
A	---file.txt	A
B	+++updated.txt	B
C	B	$
D	+$	C
E	C	#
F	-D	%
	+#	E
	+%	F
	E	

Git command review

For each action, type the name of the corresponding Git command.

- Compare two commits, printing each line that is present in one commit but not the other.

  git diff

- Make a copy of an entire Git repository, including the history, onto your own computer.

  git clone

- Temporarily reset all files in a repository to their state at the time of a specific commit.

  git checkout

- Show the commits made in a repository, starting with the most recent.

  git log

```
commit 7be5a12f1567866b0d77ccdf2055d1a33831da78
Date:   Fri Jul 11 12:56:26 2014 -0300

    Add sound for the wing.

commit 06d72e1f95f046002ec46f41cf71957227111141
Date:   Wed Jul 9 23:42:55 2014 -0300

    Add mute button.

commit 3d4d45b246aad6a1cd0afaf7cfae26966110727e
Date:   Mon Jul 7 17:35:47 2014 -0300

    Fix leaderboard button
```
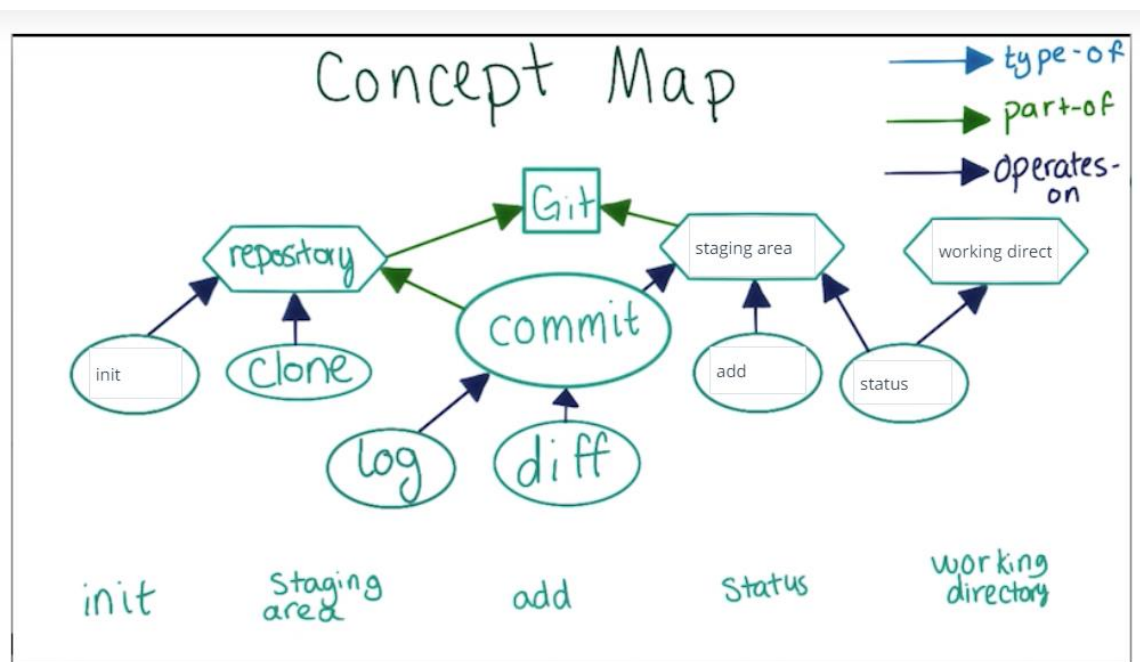
Select the command for which the mute button code lines would be shown as additions.

- ○ git diff 7be5a1 06d72e
- ○ git diff 06d72e 7be5a1
- ○ git diff 06d72e 3d4d45
- ● git diff 3d4d45 06d72e

|	Never true	Sometimes true	Always true
Checking out an earlier commit will change the state of at least one file.	○	◉	○
Checking out an earlier commit will change the state of more than one file.	○	◉	○
Checking out an earlier commit will change the state of every file in the repository.	○	◉	○
After checking out a commit, the state of all the files in the repository will be from the same point in time.	○	○	◉

Concept Map

type-of
part-of
operates-on

Git

repository

staging area

working direct

commit

init

Clone

add

status

log

diff

init   Staging area   add   Status   working directory

What two versions does each form of **git diff** compare?

Working directory	Staging area	Repository
file1	file1	Commit1 ...
file2	file2	Commit2 ...

Choices: working directory
staging area
Commit 1
commit 2

git diff

working directory	staging area

git diff --staged

staging area	commit 1

git diff commit1 commit2

commit 1	commit 2
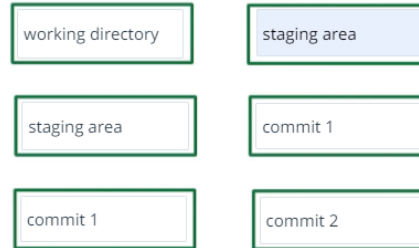
Reachability
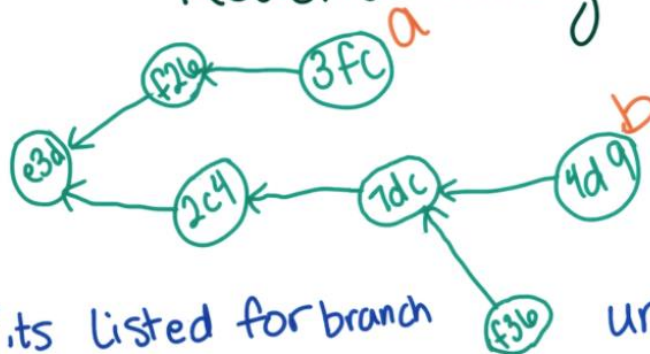
commits listed for branch

a: 3fc, f26, e3d

b: 4d9, 7dc, 2c4, e3d

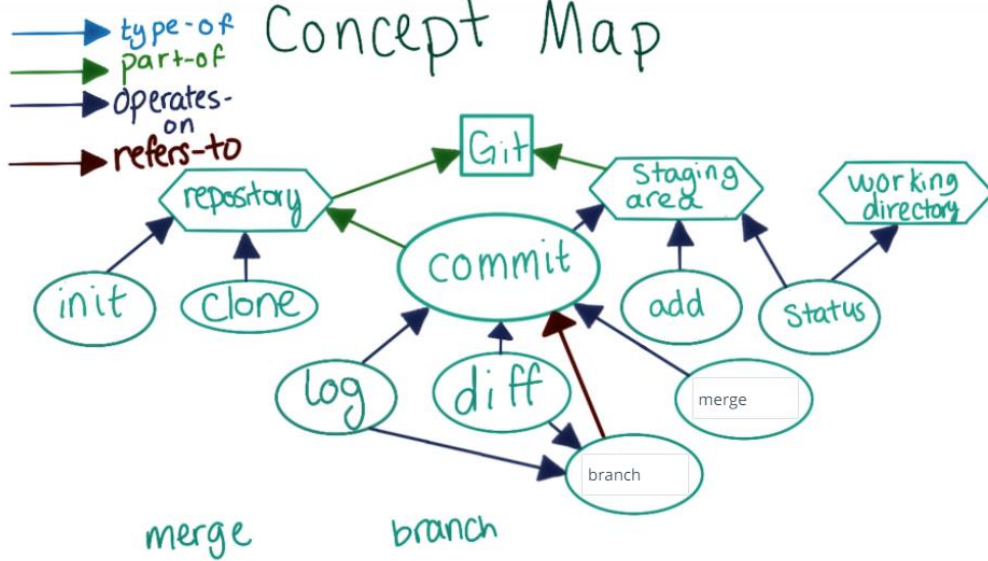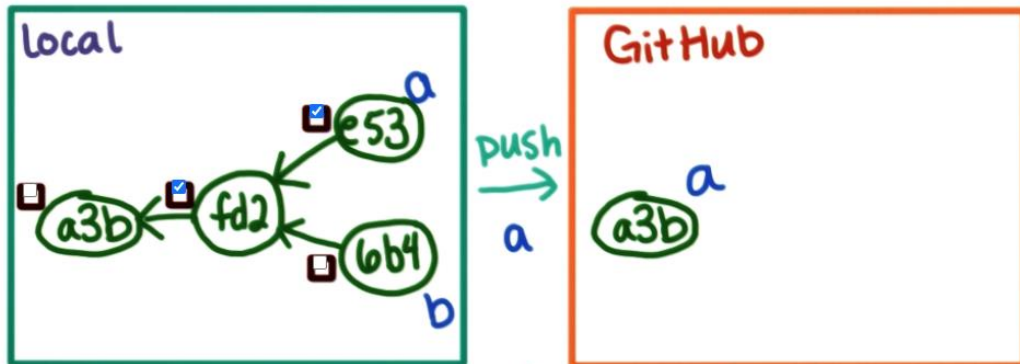unreachable commits:

f36

Merging files

Jake
B
D
E

In final? Yes, no, or unknown

A   unknown
B   yes
C   unknown
D   yes
E   unknown

Rachel
A
B
C
D

Merging files

Original: A B D

Jake
B
D
E

In final? Yes, no, or unknown

A   no
B   Yes
C   yes
D   Yes
E   yes

Rachel
A
B
C
D
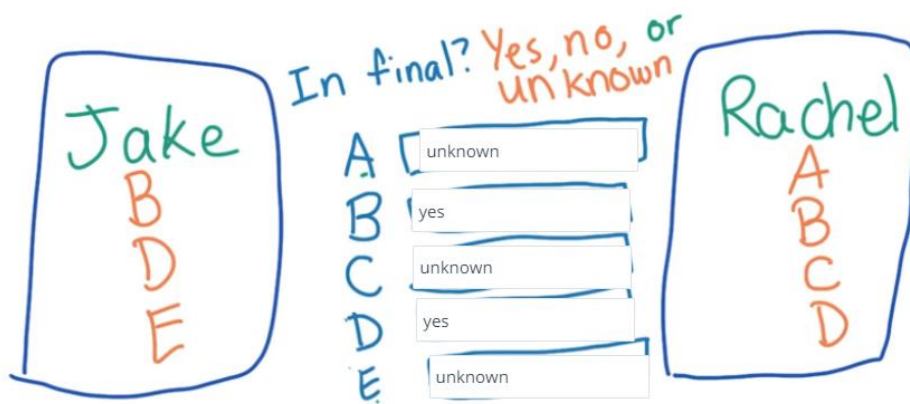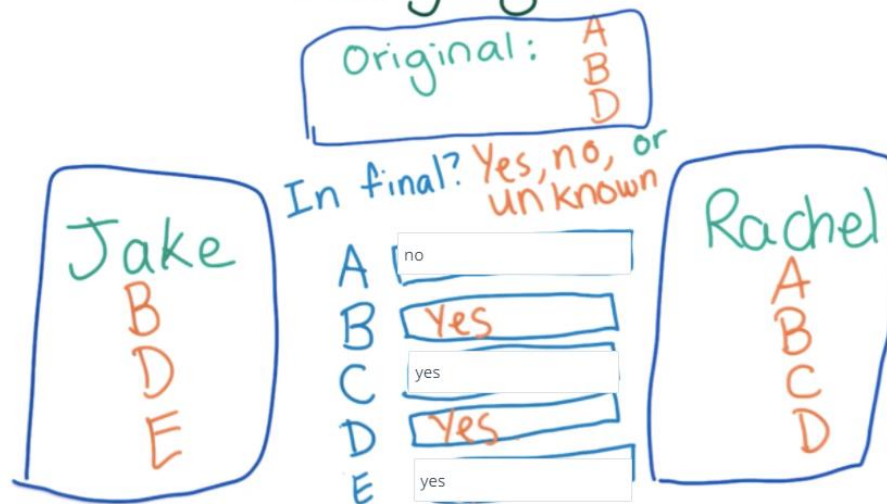
Current History Diagram

revert controls · first coins commit · helper fns · coin collection · ships on coins

Which commits would appear in log for master?

fix screen typo · ipad · frame interval/animation · color · easy

easy-mode

Concept Map

type-of
part-of
operates-on
refers-to

Git · repository · init · clone · commit · log · diff · branch · Staging area · add · status · merge · working directory
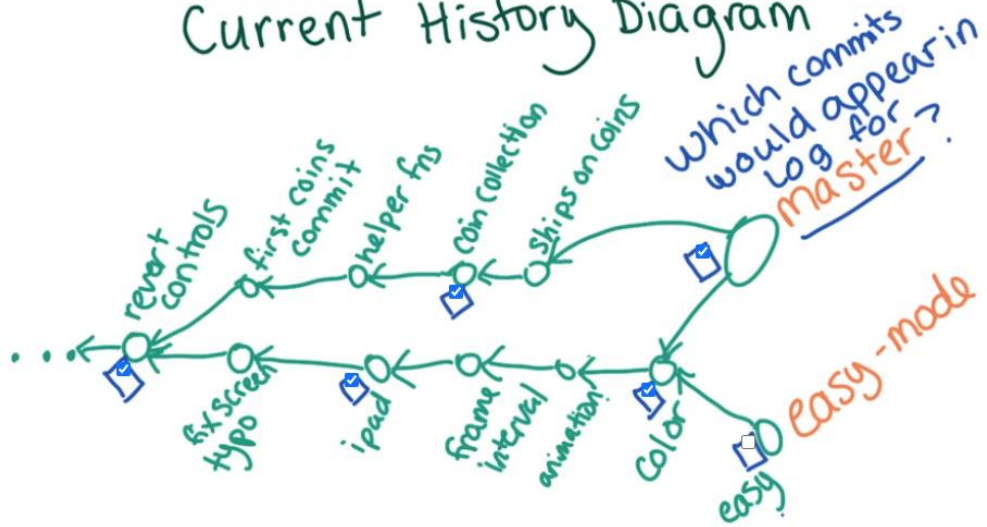
merge   branch

Syncing Repositories

local — GitHub

push →

Check the commits that will be sent

Concept Map

Legend:
- type-of
- part-of
- operates-on
- refers-to

pull   GitHub   remote   push
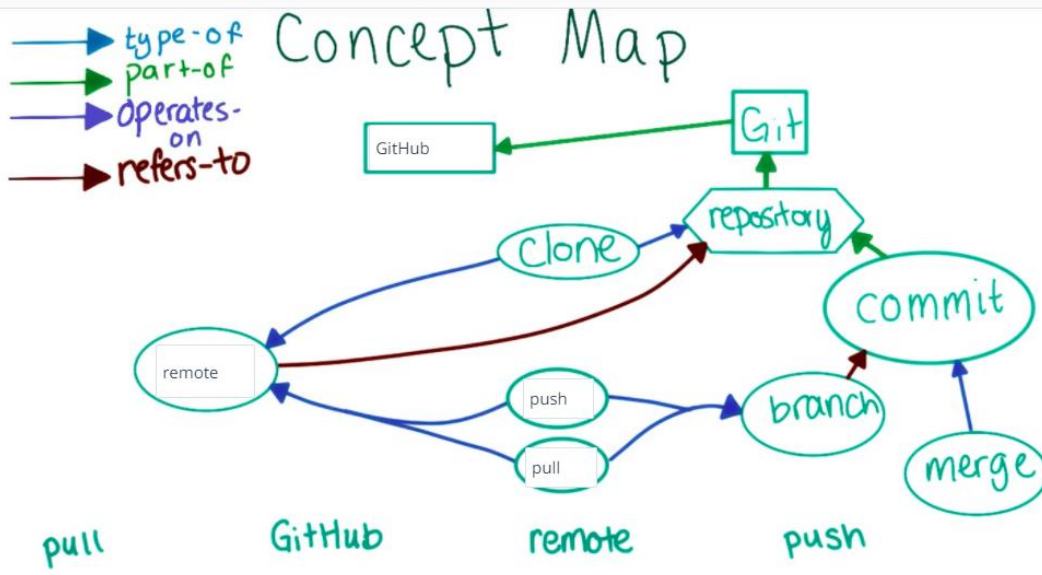
Clone, Branch, or Fork?

branch

Local

a
b

clone

local

Git Hub

Git Hub

Fork

Git Hub

Clone
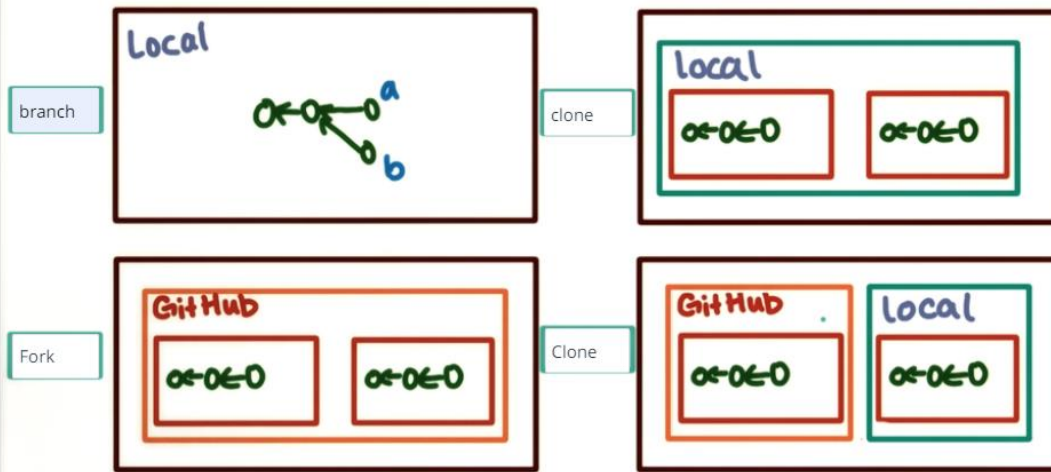
Git Hub | **local**

Fast-forward Merges

☑

b

a

☐

a
b

☐

a
b

☑

a

b
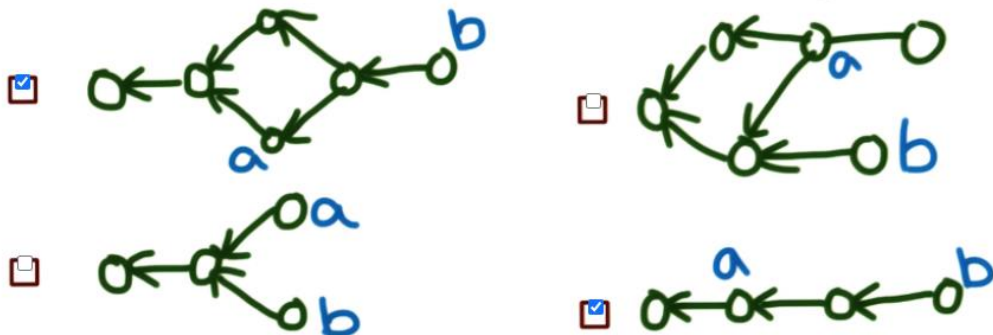
Check if merging b into a would be a fast-forward

What gets Changed?

	Local working directory	Local staging area	Local master branch	GitHub master branch
edit and save README.md	☑	☐	☐	☐
git add README.md	☐	☑	☐	☐
git commit	☐	☐	☑	☐
git pull origin master	☐	☐	☑	☐
git push origin master	☐	☐	☐	☑
merge alt pull request	☐	☐	☐	☑

local
working directory   Commit history
b   master
staging area   alt
b

origin

GitHub
Commit history
master
alt
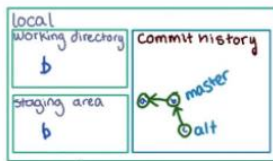
assume these commands are run with local master checked out

Concept Map

type-of
part-of
operates-on
refers-to

pull request
fetch
fast-forward merge
fork

GitHub — Git
fork
Clone
repository
remote
push
pull
fetch
fast-forward me
branch
commit
merge
pull request