Sign in on the attendance sheet!
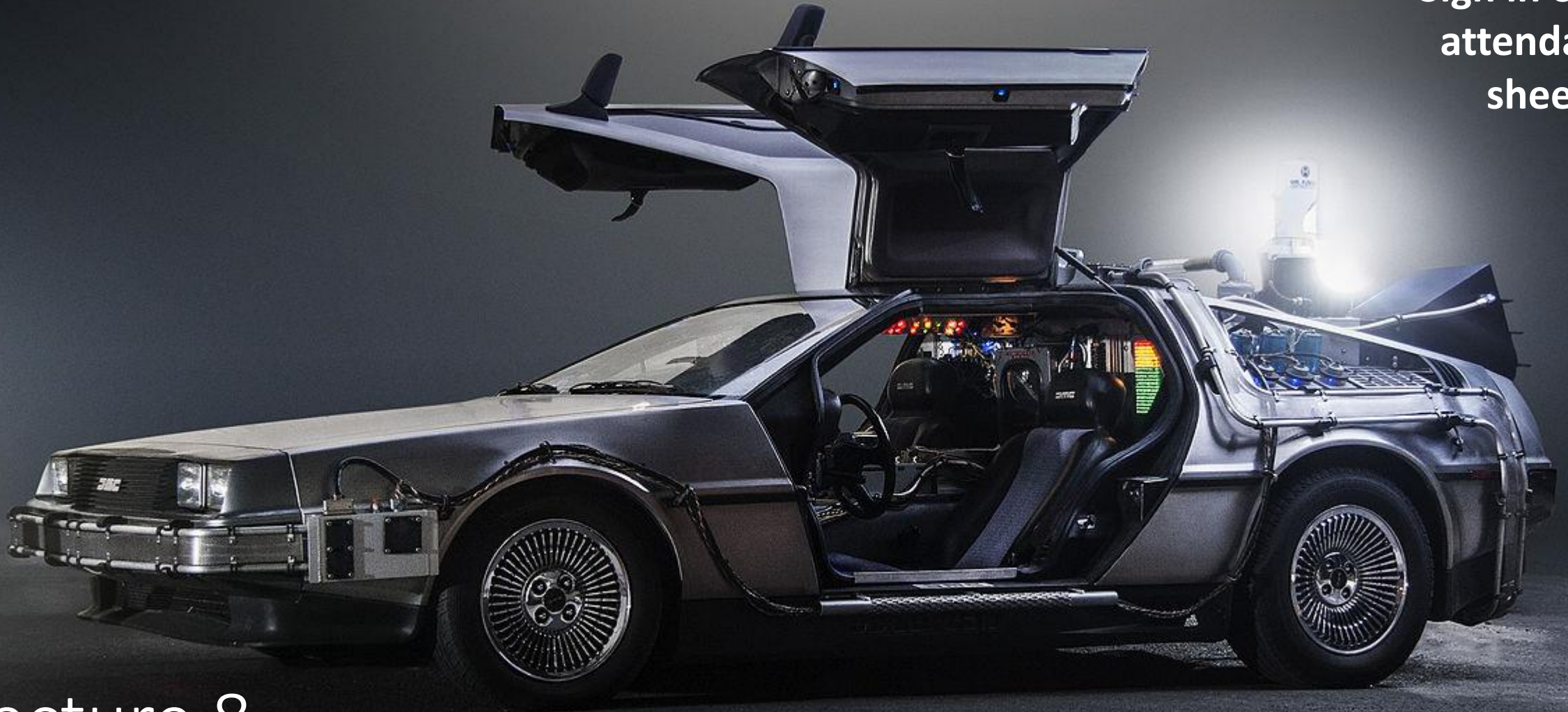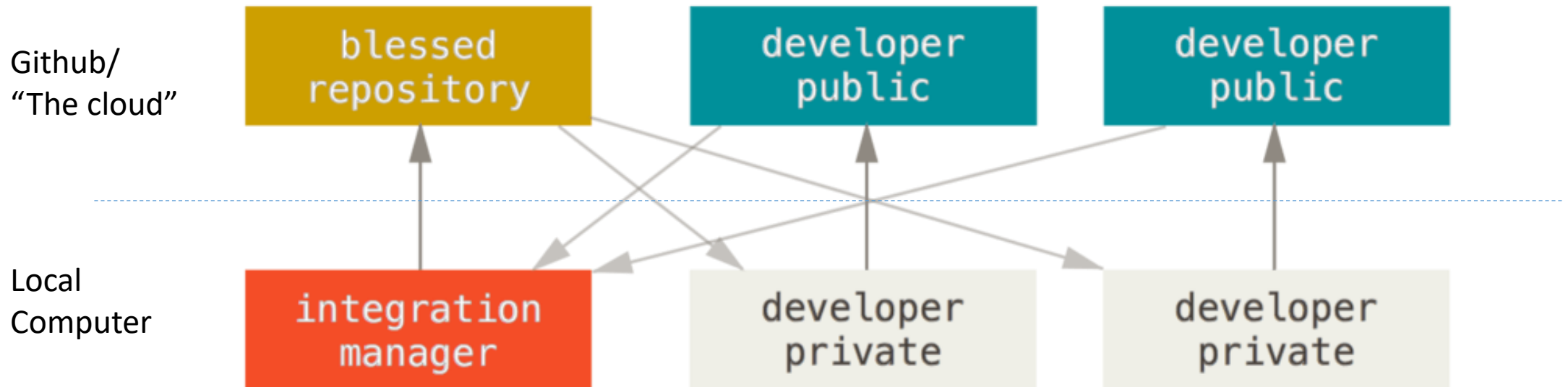
Lecture 8
Rebasing

Schedule
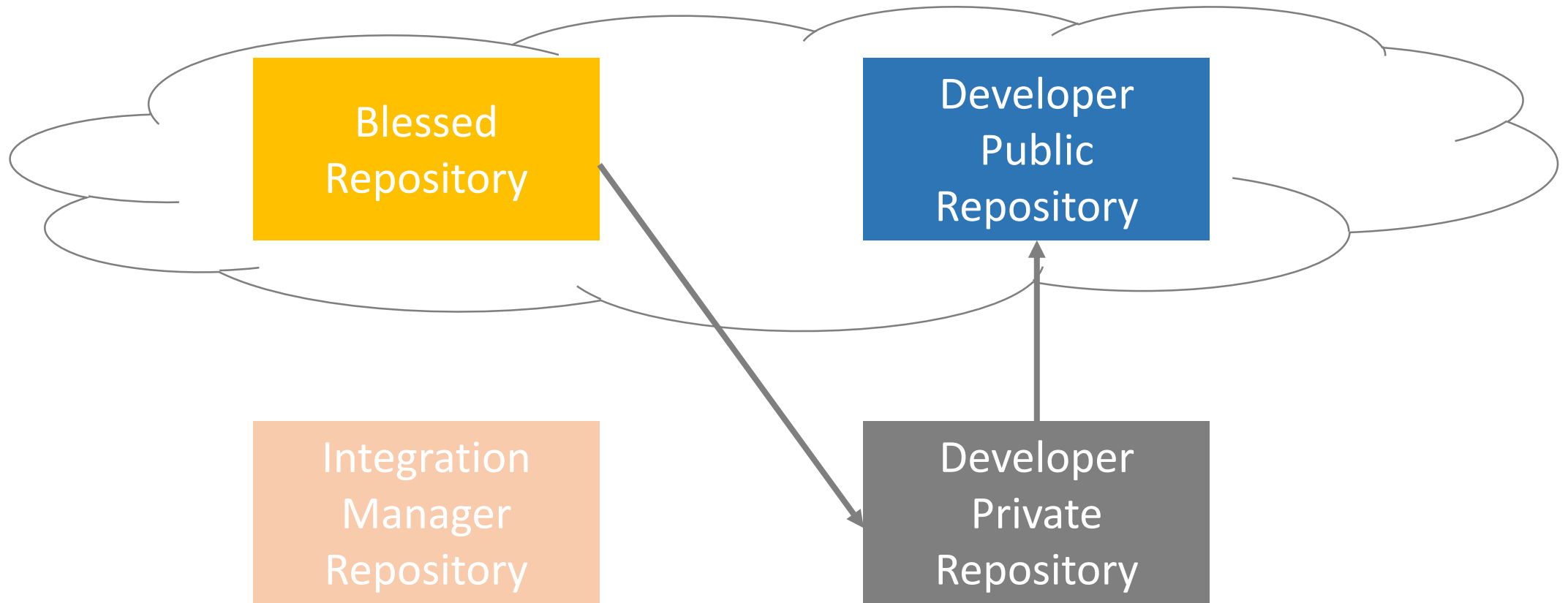
March 29	Rebasing
April 5	When Things Go Wrong
April 12	Visual Git Tools
April 19	Carnival, no class
April 26	Plumbing and Porcealin
May 3	Final

Last Time

- Centralized Workflow
- Integration Manager Workflow

Github/
"The cloud"

Local
Computer

You need to keep your fork up to date

You need to keep your fork up to date

In the private developer repo

```
$ git remote add upstream
    https://github.com/autolab/Autolab.git
$ git fetch upstream
$ git checkout master
$ git merge upstream/master
$ git push origin master
```
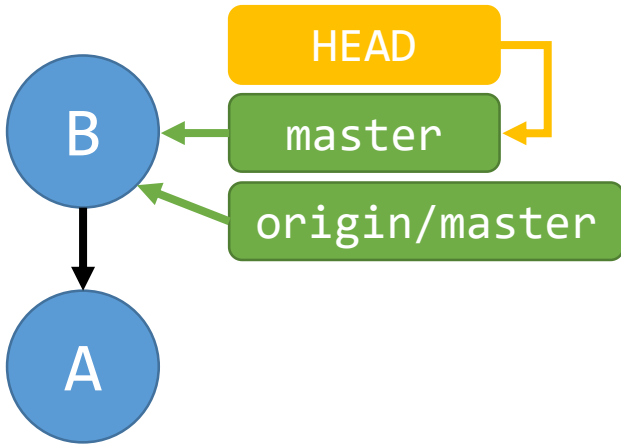
(Sometimes) Need to Get Changes from Master into Topic Branch
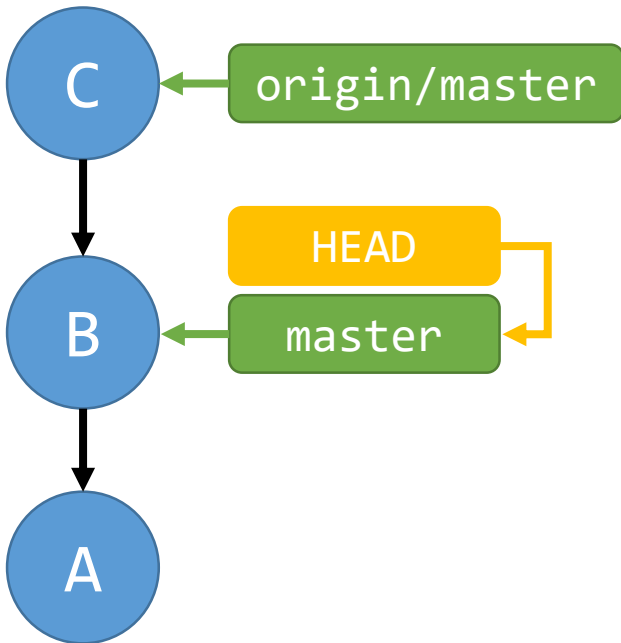# 1. Ilan Makes a Bugfix

HEAD

B ← master

origin/master → B

B → A

Ilan's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
1. Ilan Makes a Bugfix

1. `git fetch origin`

Ilan's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
1. Ilan Makes a Bugfix

1. `git fetch origin`
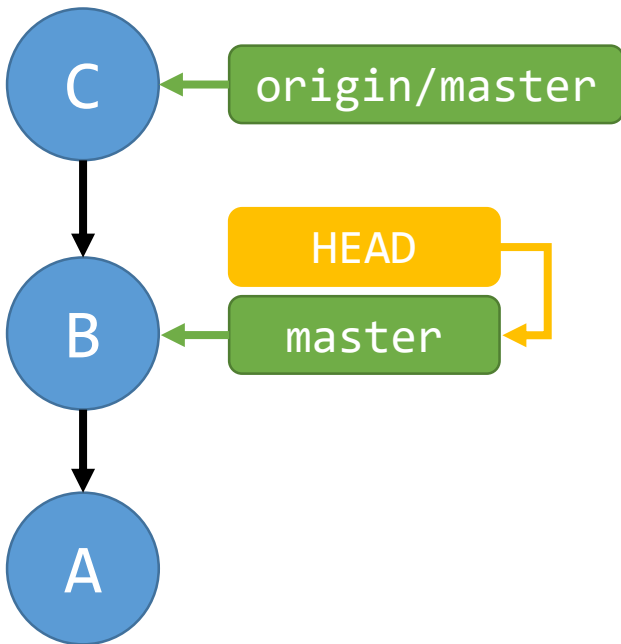2. `git merge origin/master`

Ilan's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
1. Ilan Makes a Bugfix

1. `git fetch origin`
2. `git merge origin/master`
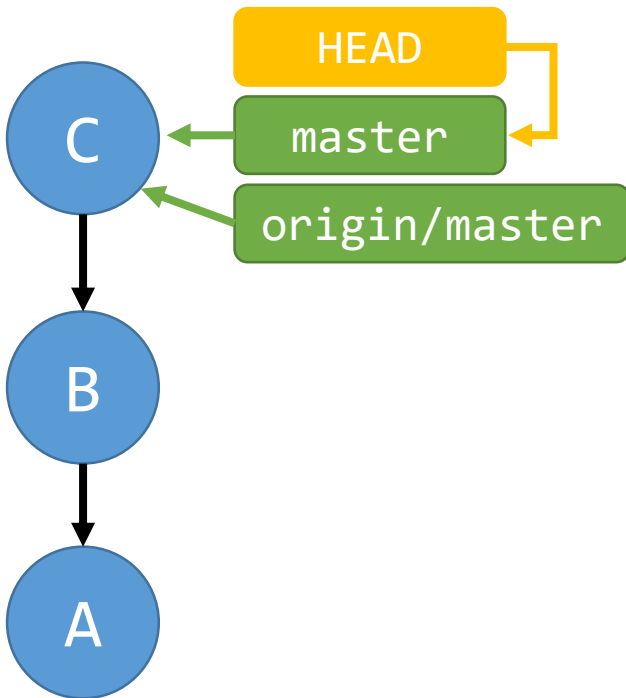

Ilan's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
1. Ilan Makes a Bugfix
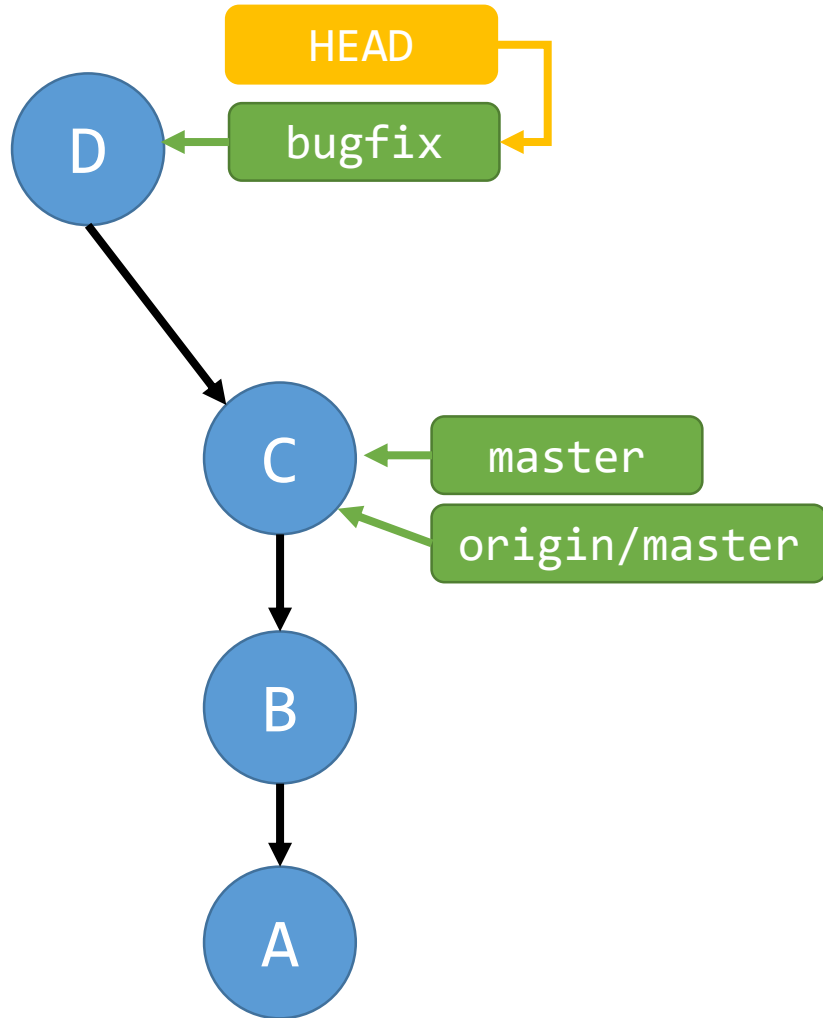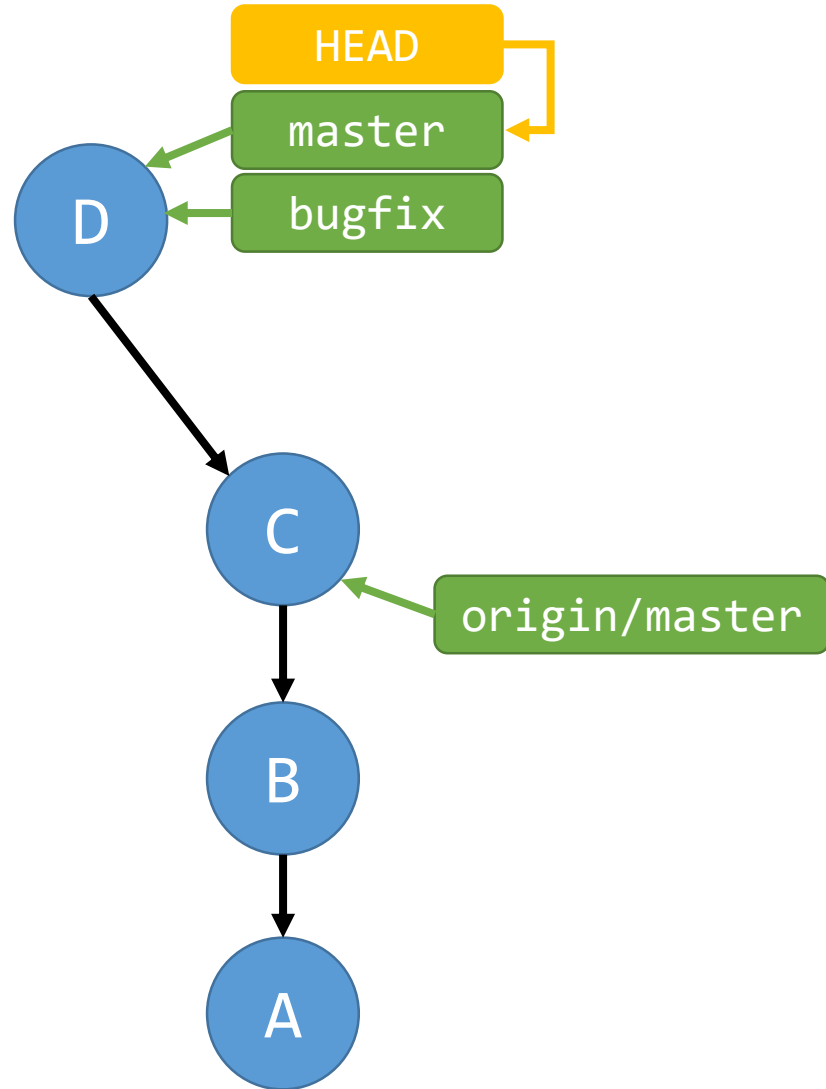

1. git fetch origin
2. git merge origin/master
3. git checkout –b bugfix
   git commit –m "D"

Ilan's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
1. Ilan Makes a Bugfix

1. git fetch origin

2. git merge origin/master

3. git checkout –b bugfix
   git commit –m "D"

4. git checkout master
   git merge bugfix

(Sometimes) Need to Get Changes from Master into Topic Branch
1. Ilan Makes a Bugfix

HEAD

master

bugfix

origin/master

D

C

B

A
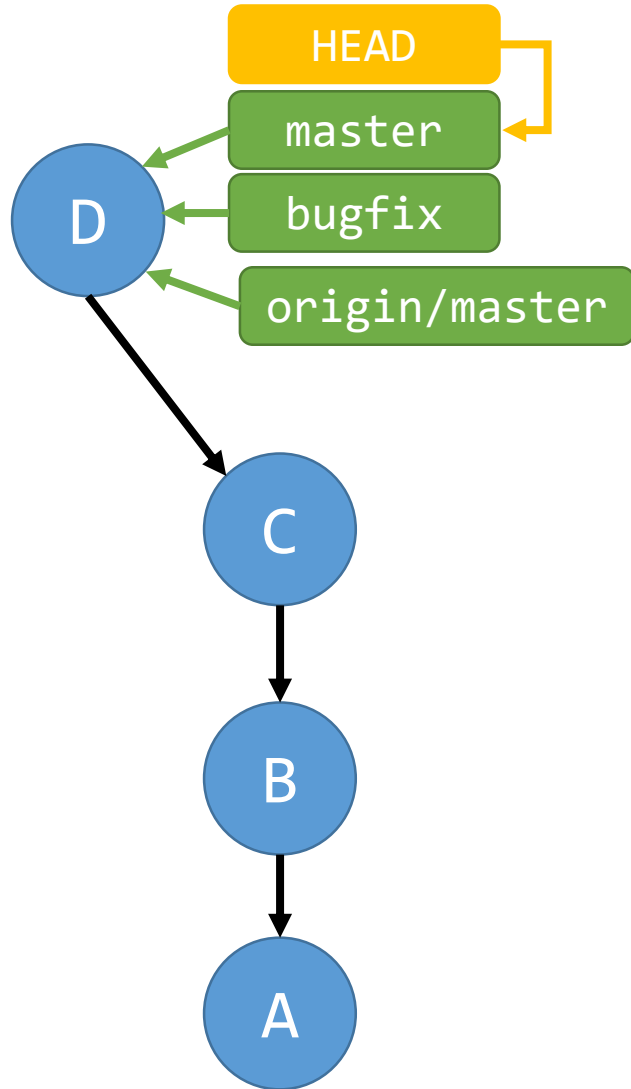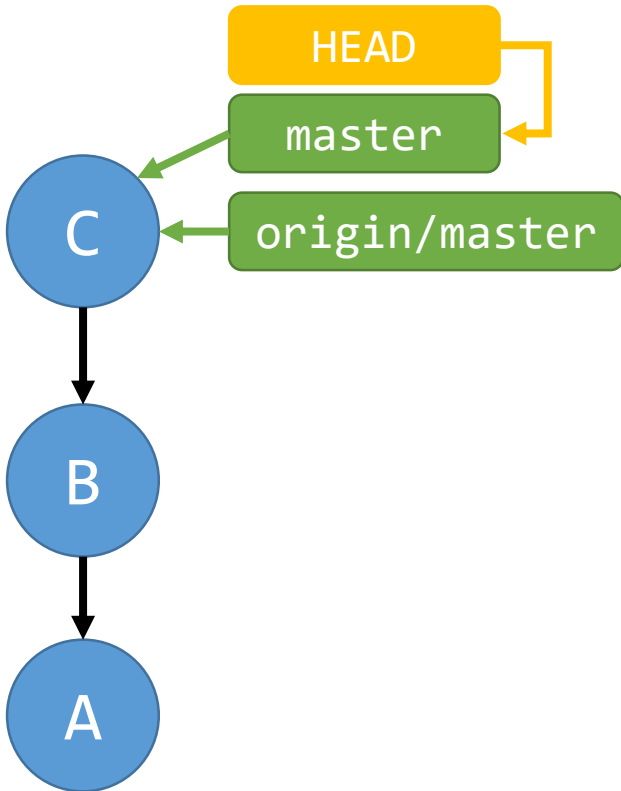
Ilan's Computer

1. git fetch origin

2. git merge origin/master

3. git checkout –b bugfix
   git commit –m "D"

4. git checkout master
   git merge bugfix
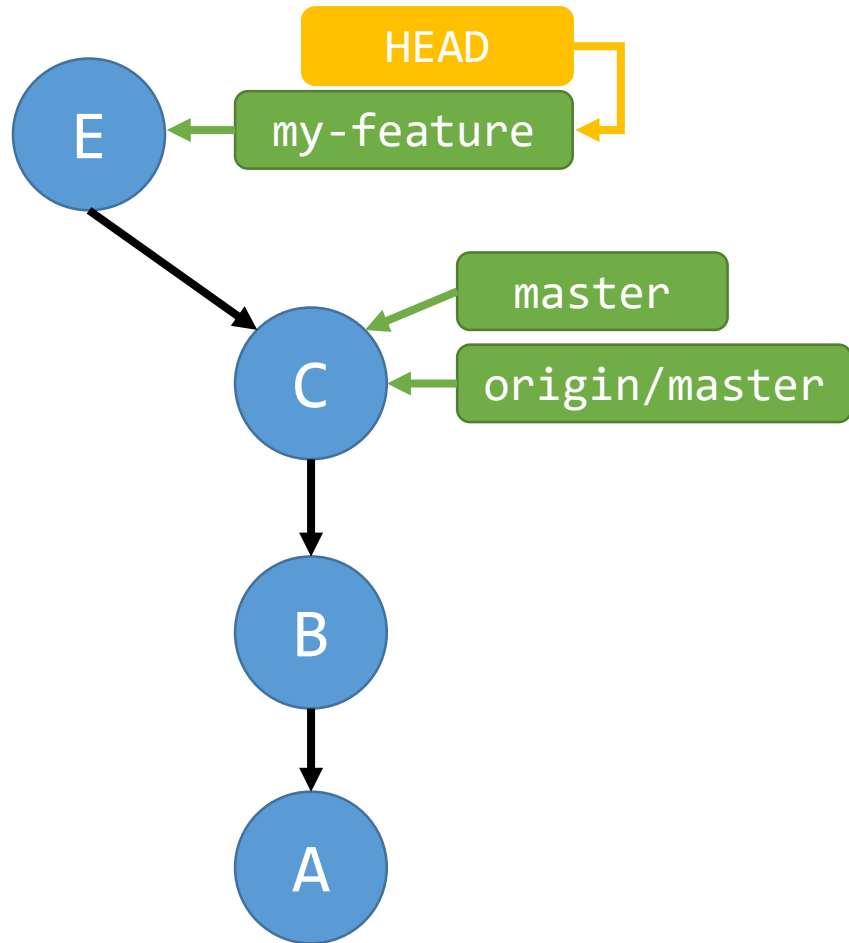
5. git push origin master

(Sometimes) Need to Get Changes from Master into Topic Branch
2. Aaron is working on a feature

Aaron's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
2. Aaron is working on a feature
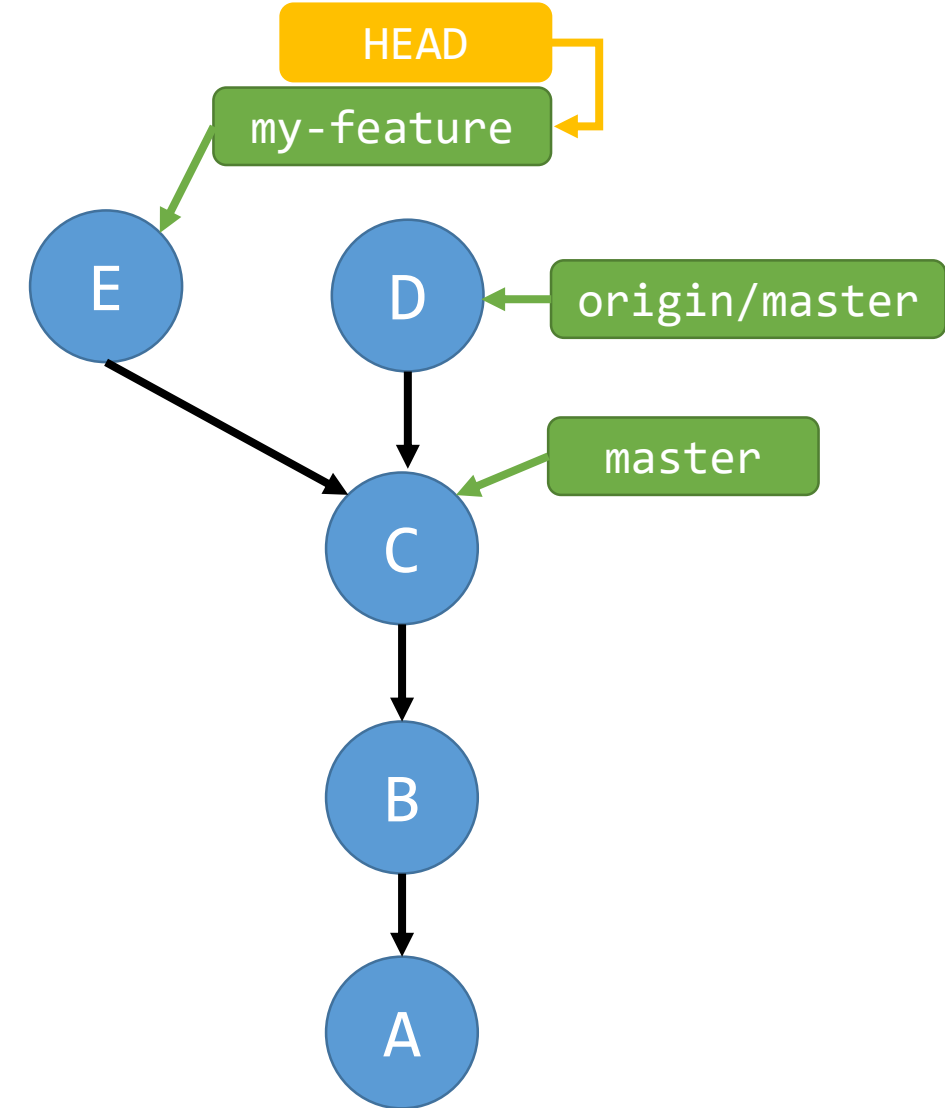


```
1. git checkout –b my-feature
   git commit –m "E"
```

Aaron's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
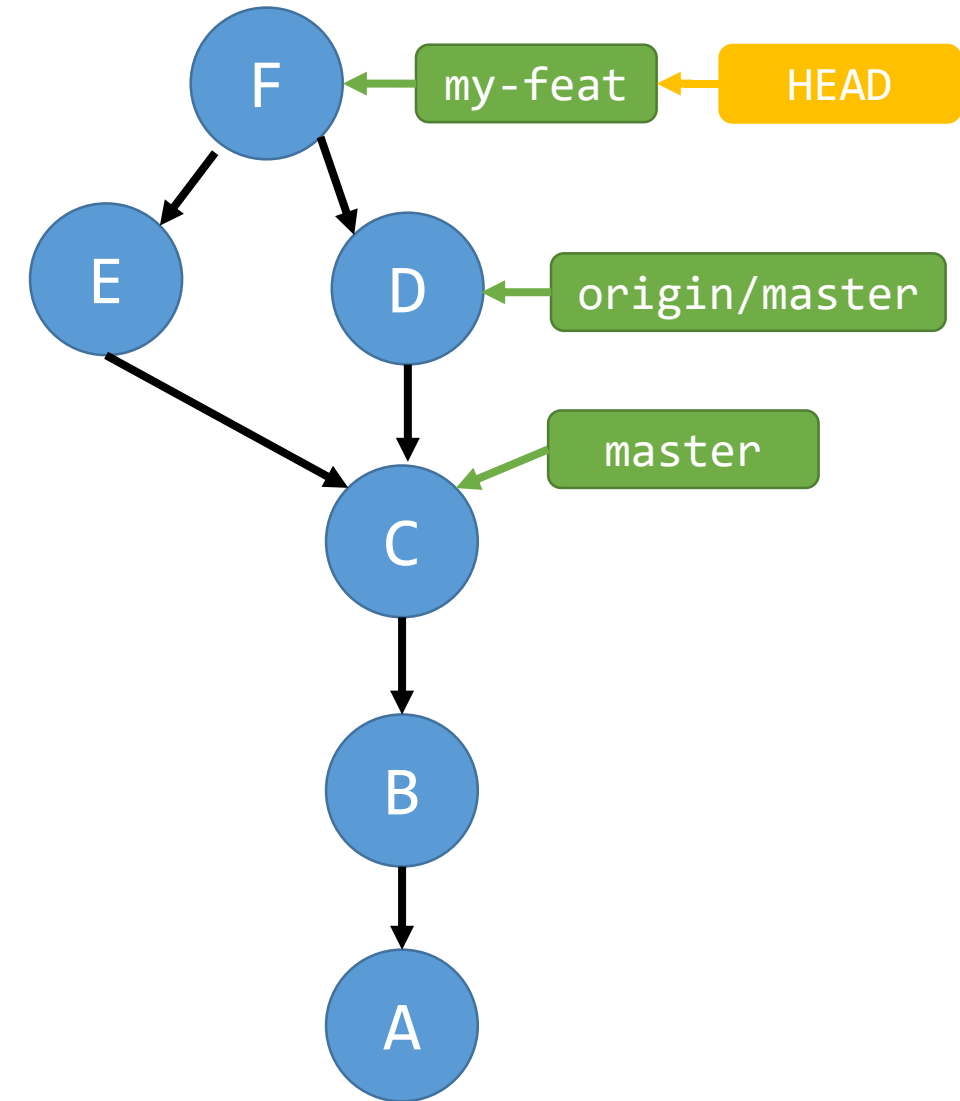2. Aaron is working on a feature

HEAD

my-feature

E

D ← origin/master

master → C

B

A

Aaron's Computer

1. `git checkout –b my-feature`
   `git commit –m "E"`

2. `git fetch origin`

(Sometimes) Need to Get Changes from Master into Topic Branch
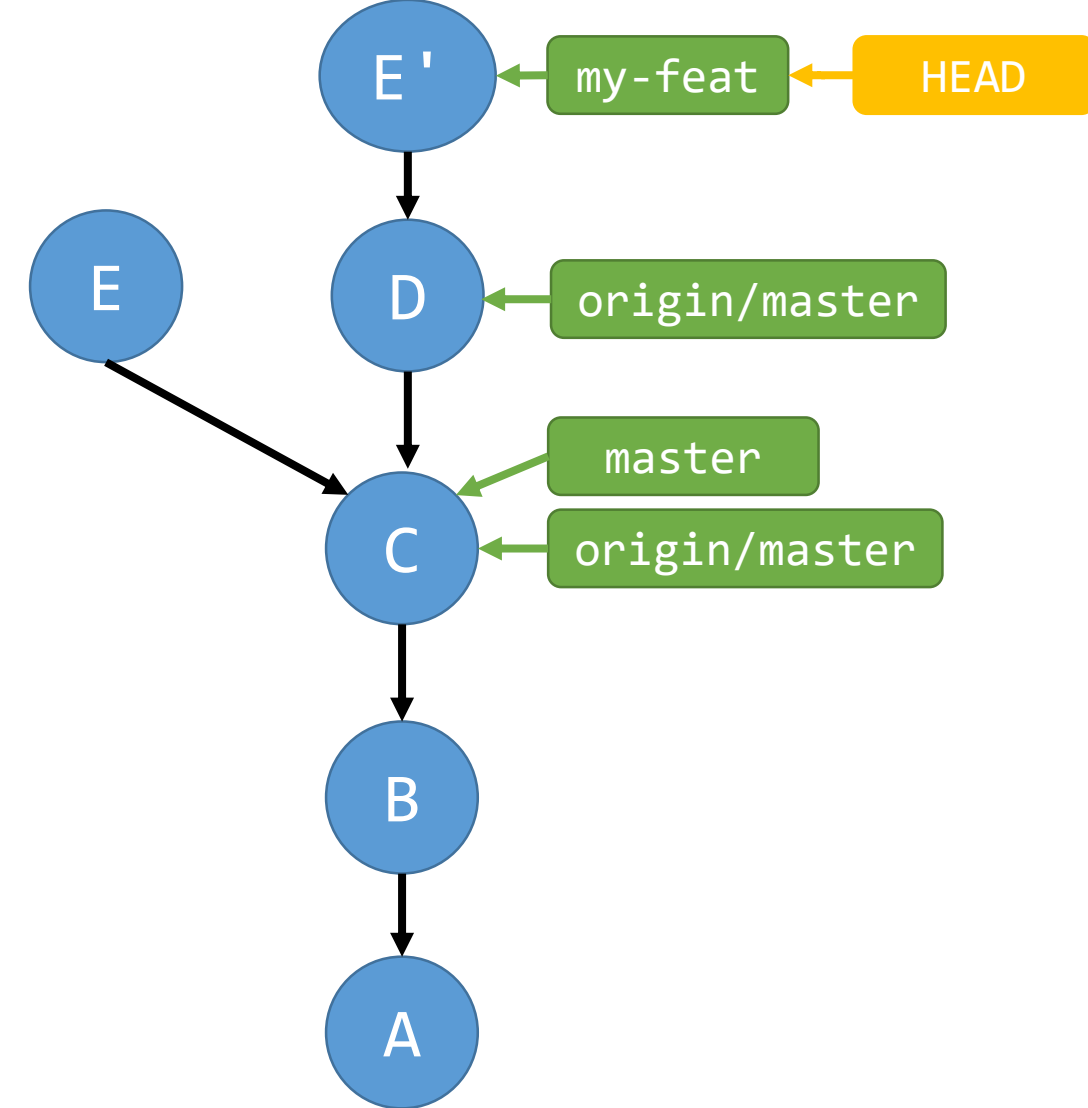2. Aaron is working on a feature

1. git checkout –b my-feature
   git commit –m "E"

2. git fetch origin

3. git merge origin/master

ewww this sucks!

Aaron's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
2. Aaron is working on a feature

much cleaner!

E' is the same as E but with a different parent
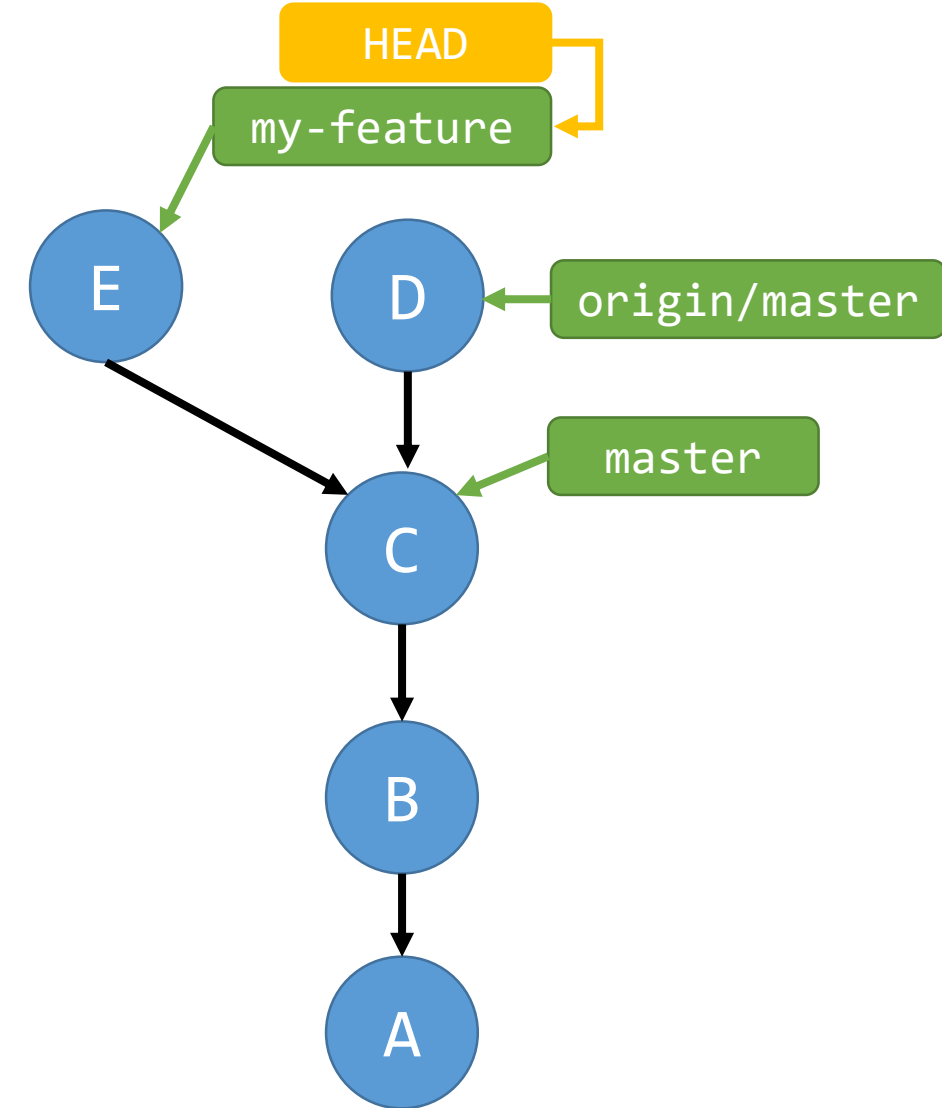
Aaron's Computer

Rebasing

- Rebasing rewrites your git history, replaying the diffs of your commits
- Useful as an alternative to merging when you want to keep history neat

(Sometimes) Need to Get Changes from Master into Topic Branch
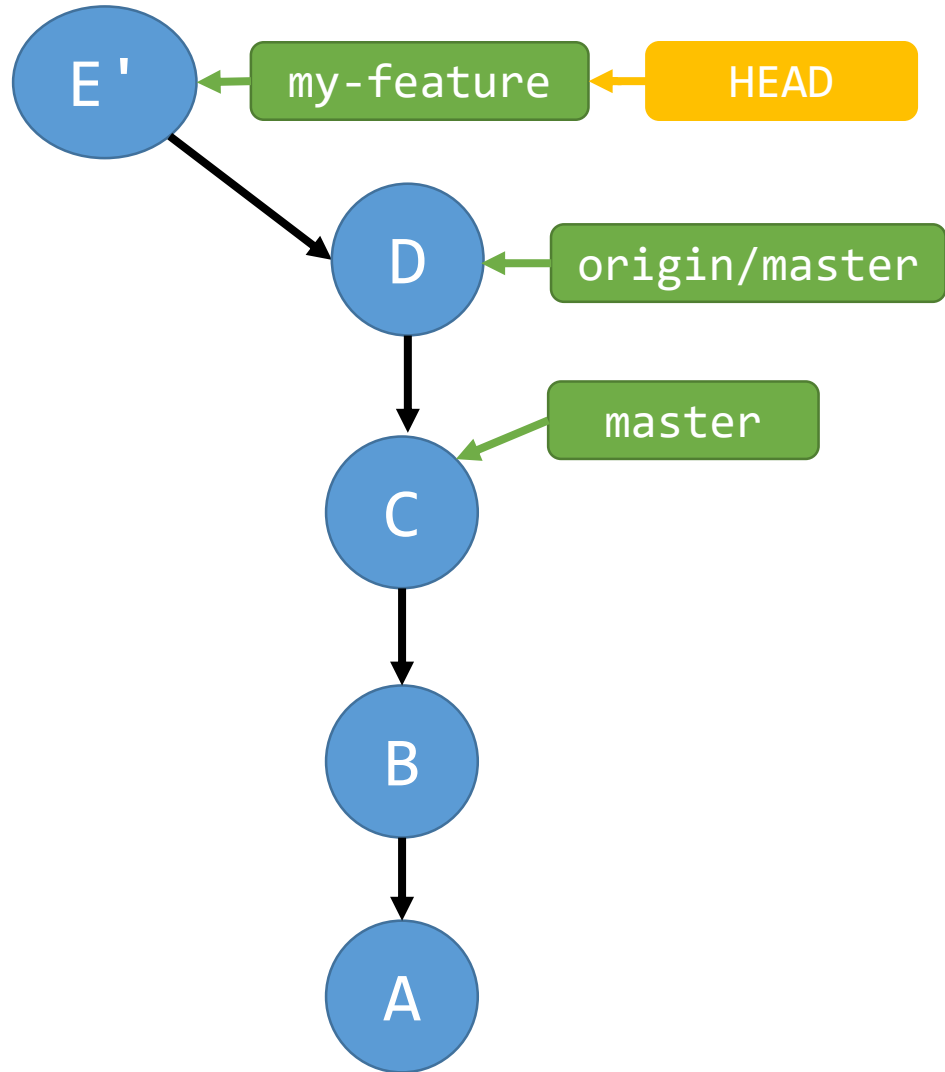## 2. Aaron is working on a feature

1. `git checkout –b my-feature`
   `git commit –m "E"`
2. `git fetch origin`

HEAD

my-feature

E   D ← origin/master

master

C

B

A

Aaron's Computer

(Sometimes) Need to Get Changes from Master into Topic Branch
2. Aaron is working on a feature

1. git checkout –b my-feature
   git commit –m "E"

2. git fetch origin

3. git rebase origin/master

Aaron's Computer

Activity/Homework

Rebase the changes you made a PR for last week on top of the new upstream/master and push to your branch. Your PR should update automatically.

push -f (force push)