

Version Control System

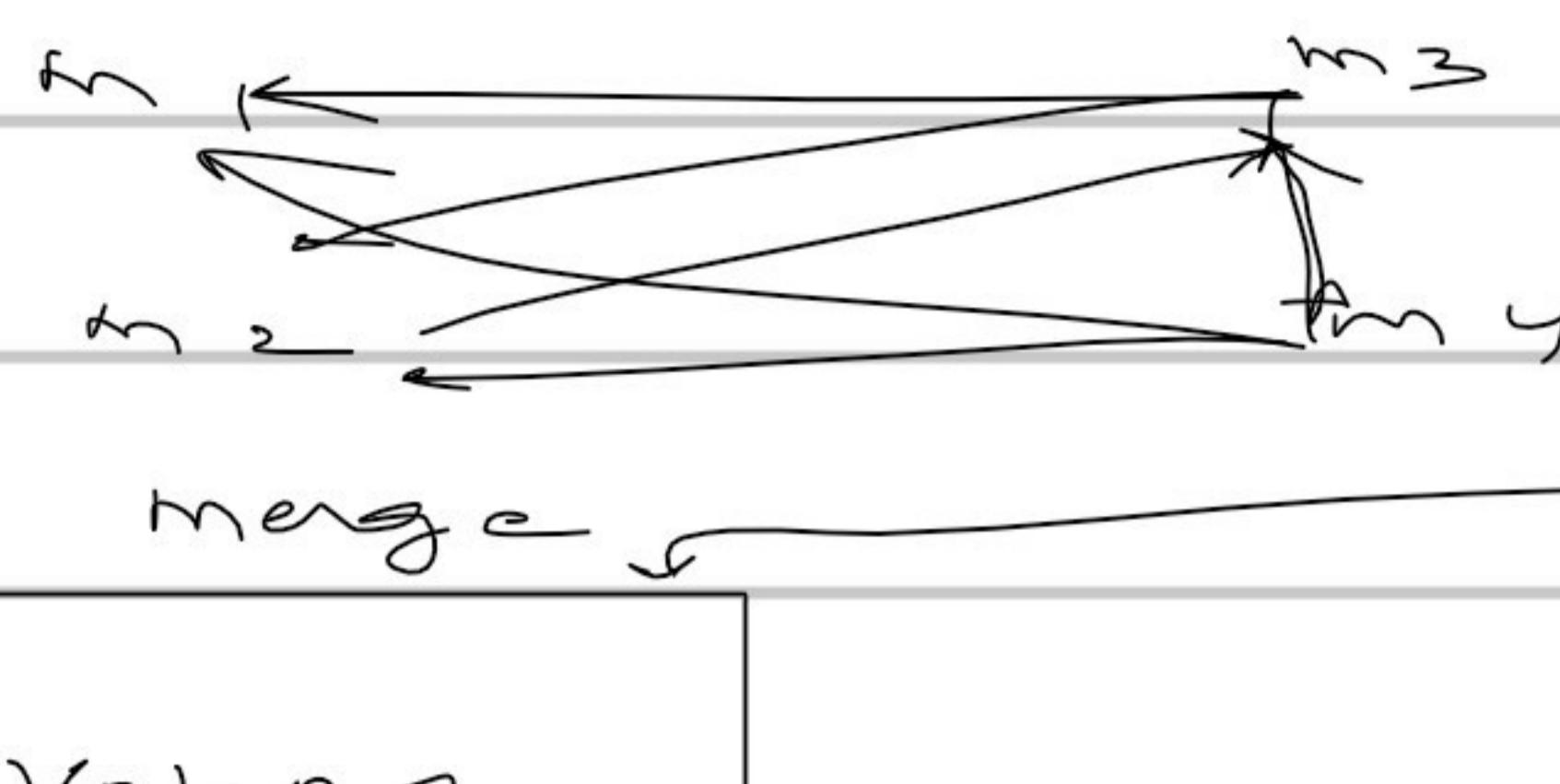
changes

Tom

v.1.0.1 [m₁ & m₂]

[m₁ m₂] → T
[m₃ m₄] → E

Elizabeth



version duplicacy / conflicts

→ lot of issues

v.1.0.1

v.1.0.0.2

v.1.0.0.2

v.1.0.0.3

v.1.0.0.3

Version Control System

SOURCE

CODE

MANAGEMENT

A system that
maintains your codebase

track history

working together

Version Control System → Git

How Git Works? →

x4z

We are working alone

→ directory → working directory

index.html
styles.css
main.js

HTML + CSS + JS

20 min

index, main, styles

Ctrl + Z

10 min

index, about-us, styles, main

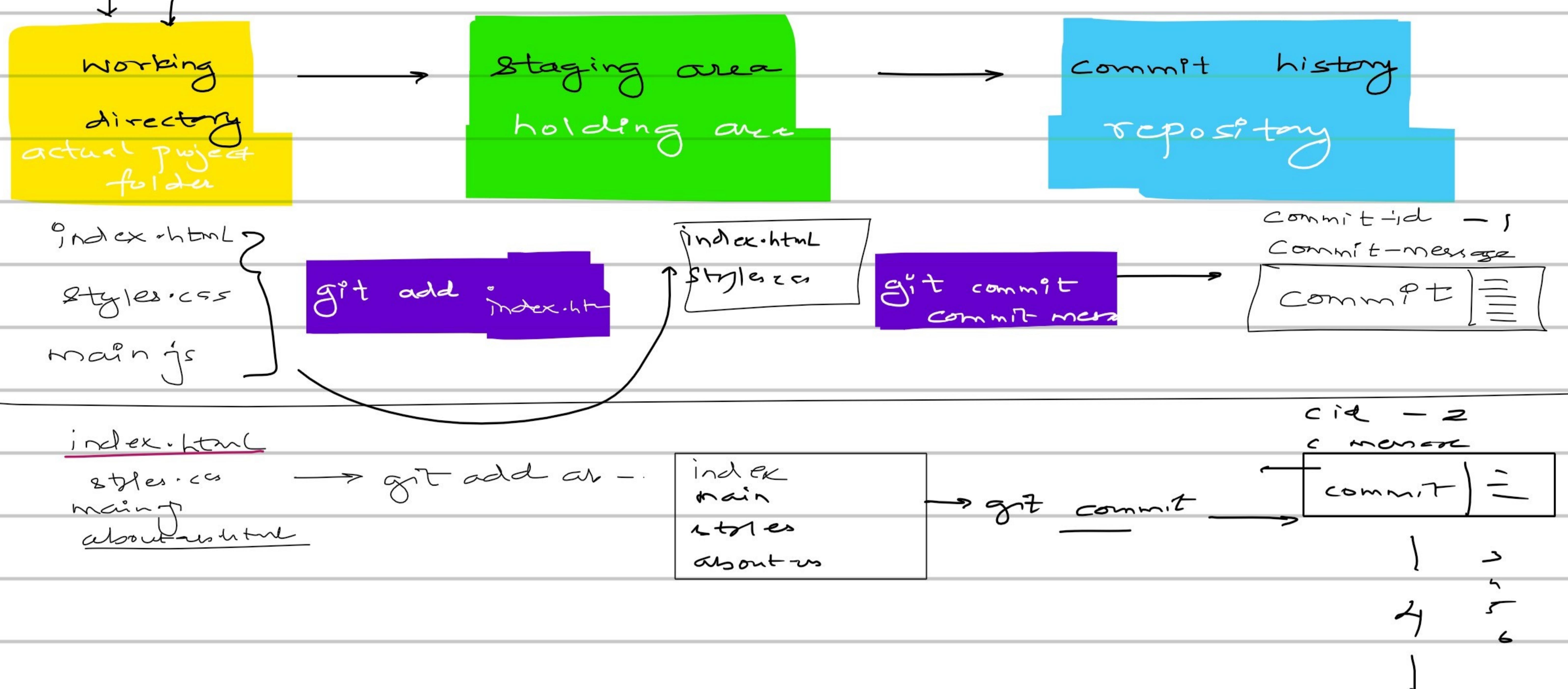
60 min

index, about-us, styles, main

70th min

index, about-us, styles, main

directory → install git → initialize a repo.



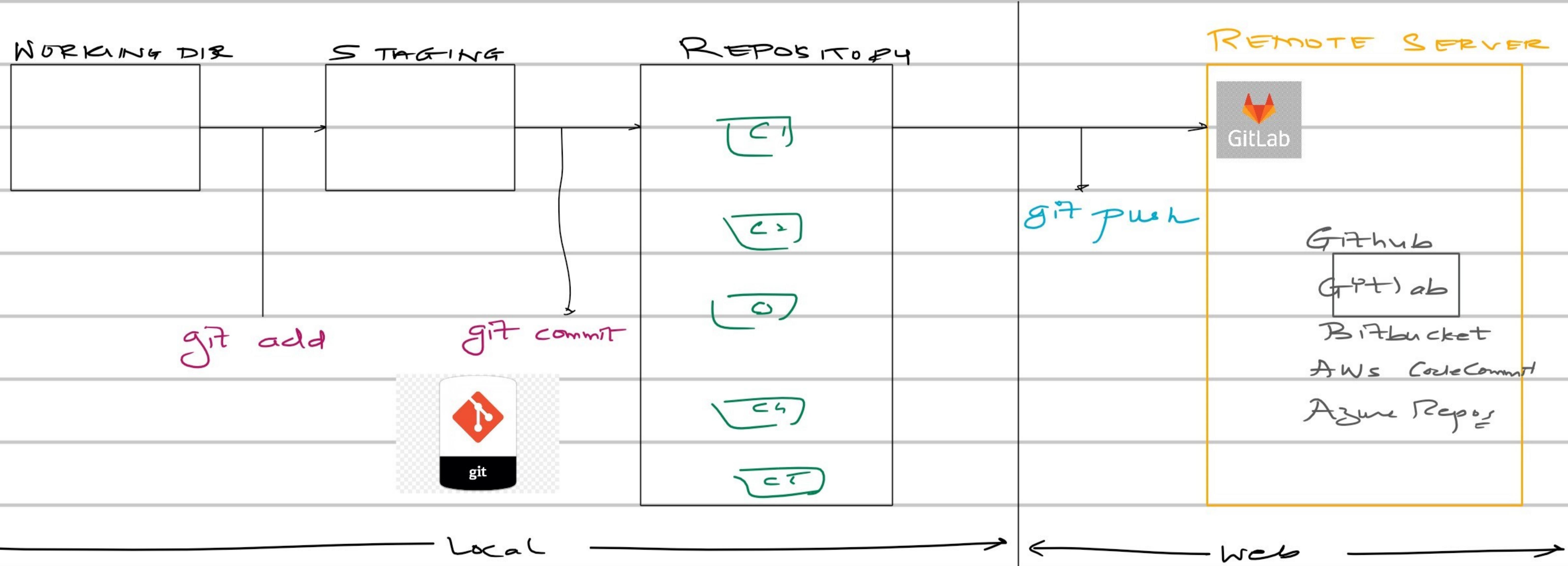
WORKING DIRECTORY

STAGING AREA

REPOSITORY

In case of fire

- o 1. git commit
- ↑ 2. git push
- ↖ 3. git out



Work TOGETHER

Tom

India

→ git push → GitLab

→ git pull

Elizabeth
US

CONFIGURE GIT

① Name

② Email

③ Default Editor

④ UI Colors

System → All the users

global → All the repositories of current user

local → The current repository

```

MINGW64:/c/Users/labuser/Desktop
labuser@eduoracledb MINGW64 ~/Desktop
$ git config --global user.name "Zartab M Nakhwa"

labuser@eduoracledb MINGW64 ~/Desktop
$ git config --global user.email "zartab@codewithz.com"

labuser@eduoracledb MINGW64 ~/Desktop
$ git config --global core.editor "code"

labuser@eduoracledb MINGW64 ~/Desktop
$ git config --global color.ui auto

labuser@eduoracledb MINGW64 ~/Desktop
$ ^C

labuser@eduoracledb MINGW64 ~/Desktop
$ |

```

Checking all config

git config -l

① Initialize the Git Repo

```
MINGW64:/c/Git and Gitlab/website
$ git init
Initialized empty Git repository in C:/Git and Gitlab/web
tabuser@eduoracledb MINGW64 /c/Git and Gitlab/website (ma
$ |
```

```
MINGW64:/c/Git and Gitlab/website
$ git add .
tabuser@eduoracledb MINGW64 /c/Git and Gitlab/website (master)
$ git status
On branch master
No commits yet
Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   index.html
    new file:   styles.css

tabuser@eduoracledb MINGW64 /c/Git and Gitlab/website (master)
$ git commit
Aborting commit due to empty commit message.

tabuser@eduoracledb MINGW64 /c/Git and Gitlab/website (master)
$ git commit -m "Initial Commit"
[master (root-commit) e4f3c14] Initial Commit
 2 files changed, 54 insertions(+)
 create mode 100644 index.html
 create mode 100644 styles.css

tabuser@eduoracledb MINGW64 /c/Git and Gitlab/website (master)
$ git log
commit e4f3c14d313a390e7d141ea64d78dcff9024cc01 (HEAD -> master)
Author: Zartab M Nakhwa <zartab@codewithz.com>
Date: Mon Dec 2 11:24:55 2024 +0000

  Initial Commit

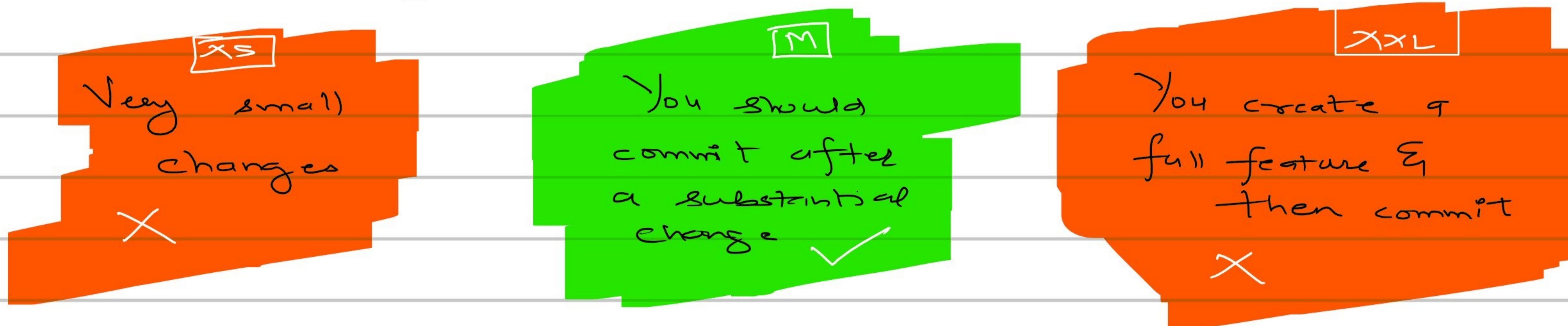
tabuser@eduoracledb MINGW64 /c/Git and Gitlab/website (master)
$ |
```

② Added to staging

③ Commit

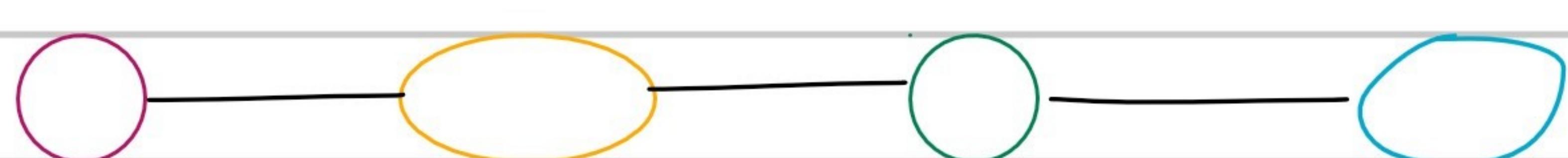
* Give meaningful commit messages

* Commit Size matters.

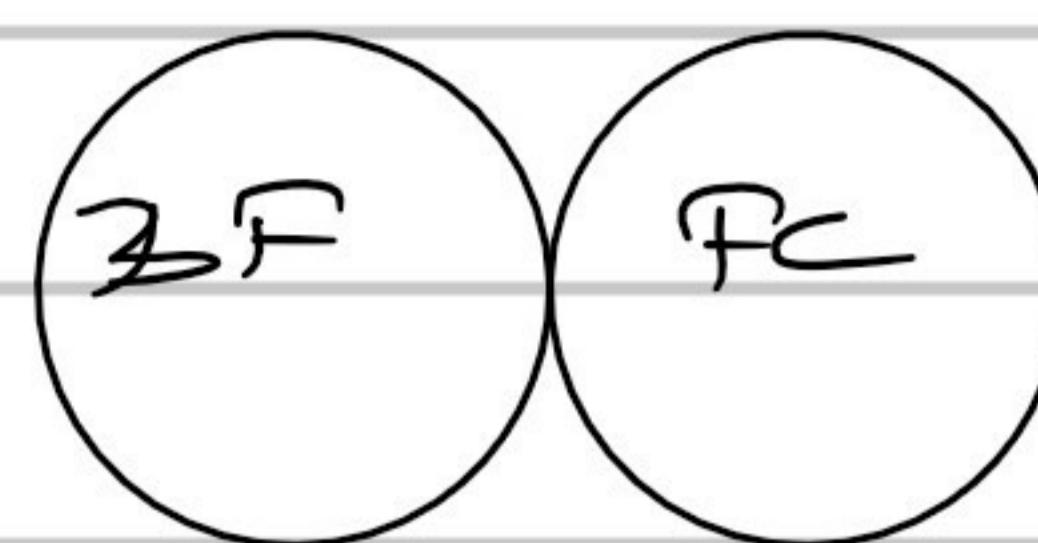


* Commit Often

→ As you reach a state you want to record then make a commit



→ Don't mix different types of commits



Porcelain Command

git add
git commit
git push
git pull
git branch
git switch
git merge
;

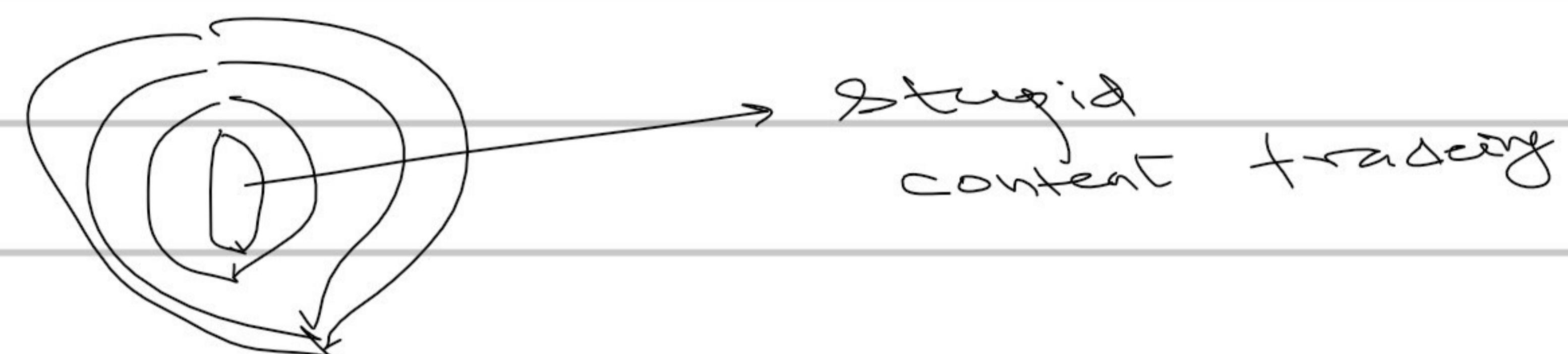
Plumbing Commands

git cat-file
git hash-object
git count-object

Git is →

a Distributed Revision Control System

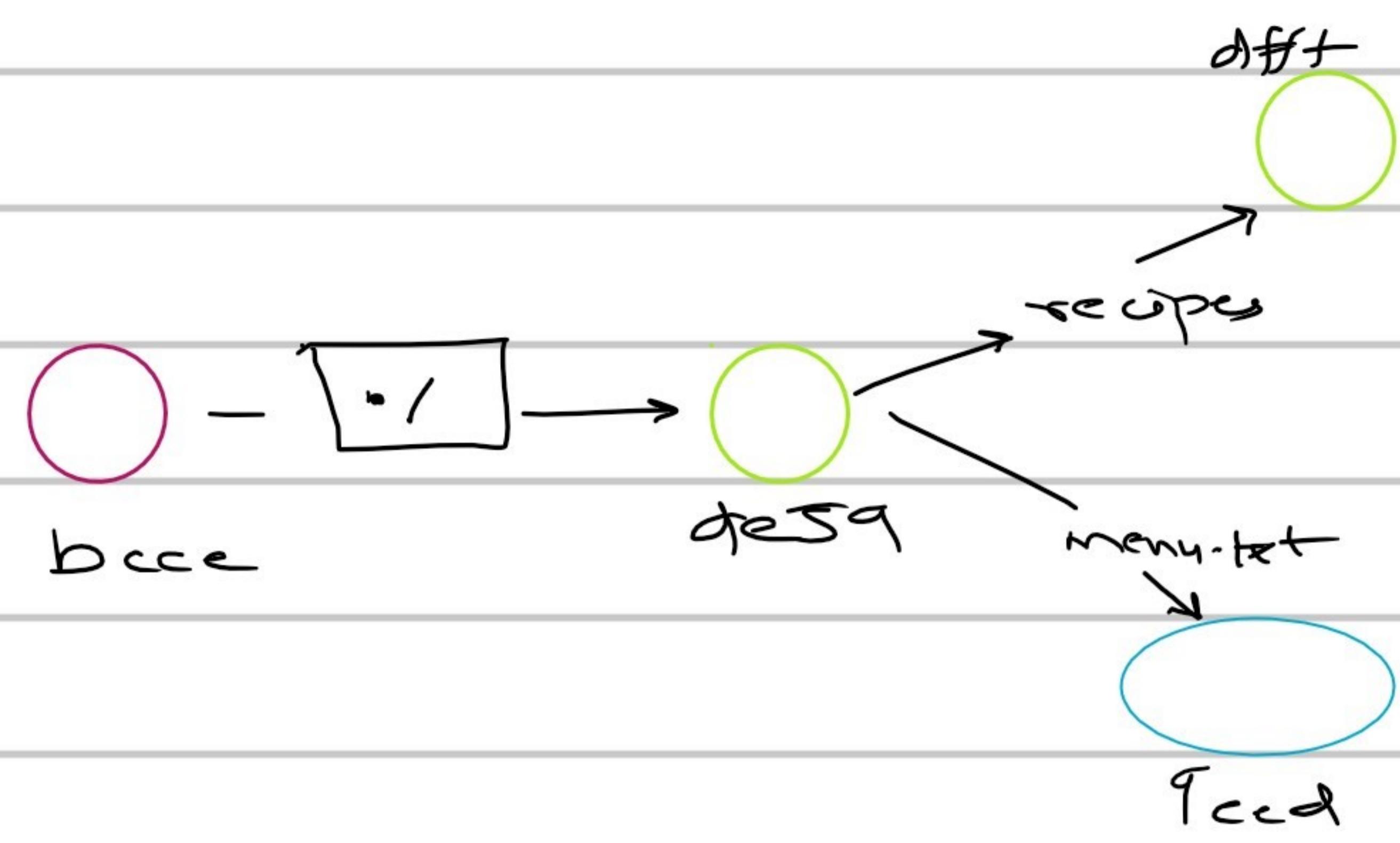
Git is like an onion



SHA1 hash algorithm

Values & Keys

Apple Pie



group

Python

group

bash

