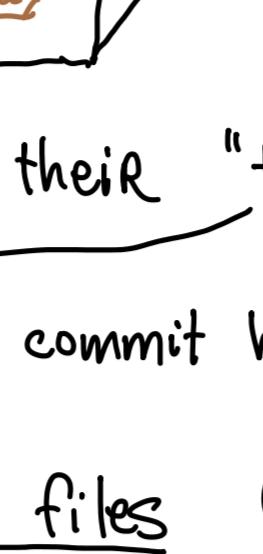
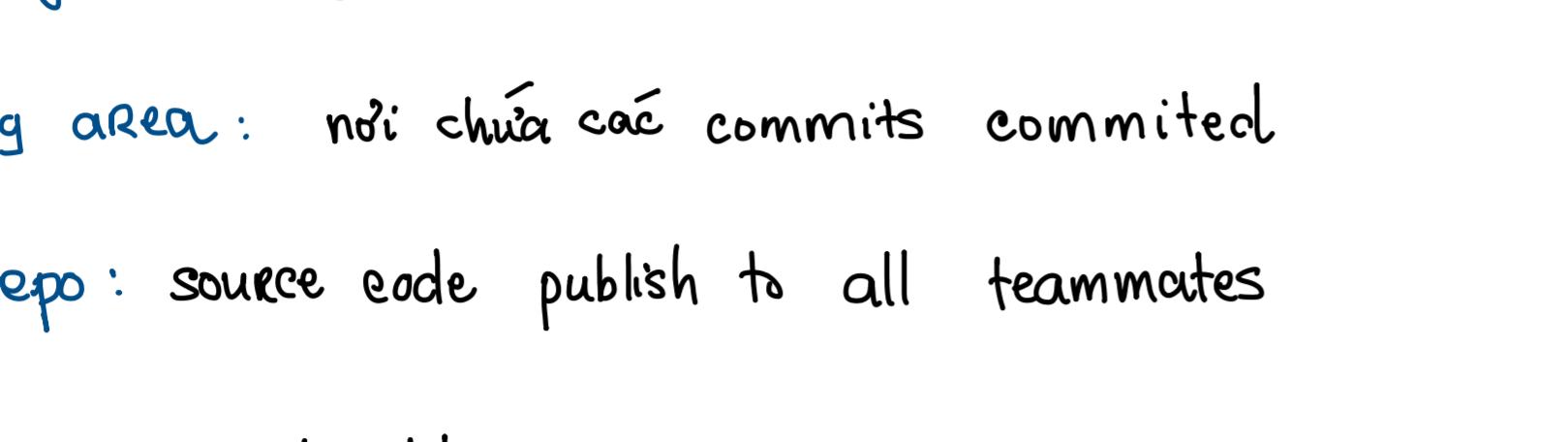


## 1. All about a commit

- `<Git init>` in the folder → tạo folder .git ) làm 1 lần khi tạo project
- tạo file README.md
- **Git status** tracks changes, commits
- **Git add** ... includes files to a future commit
- **Git commit** packs all included files with a message `-m "message here"` Shows what included files doing



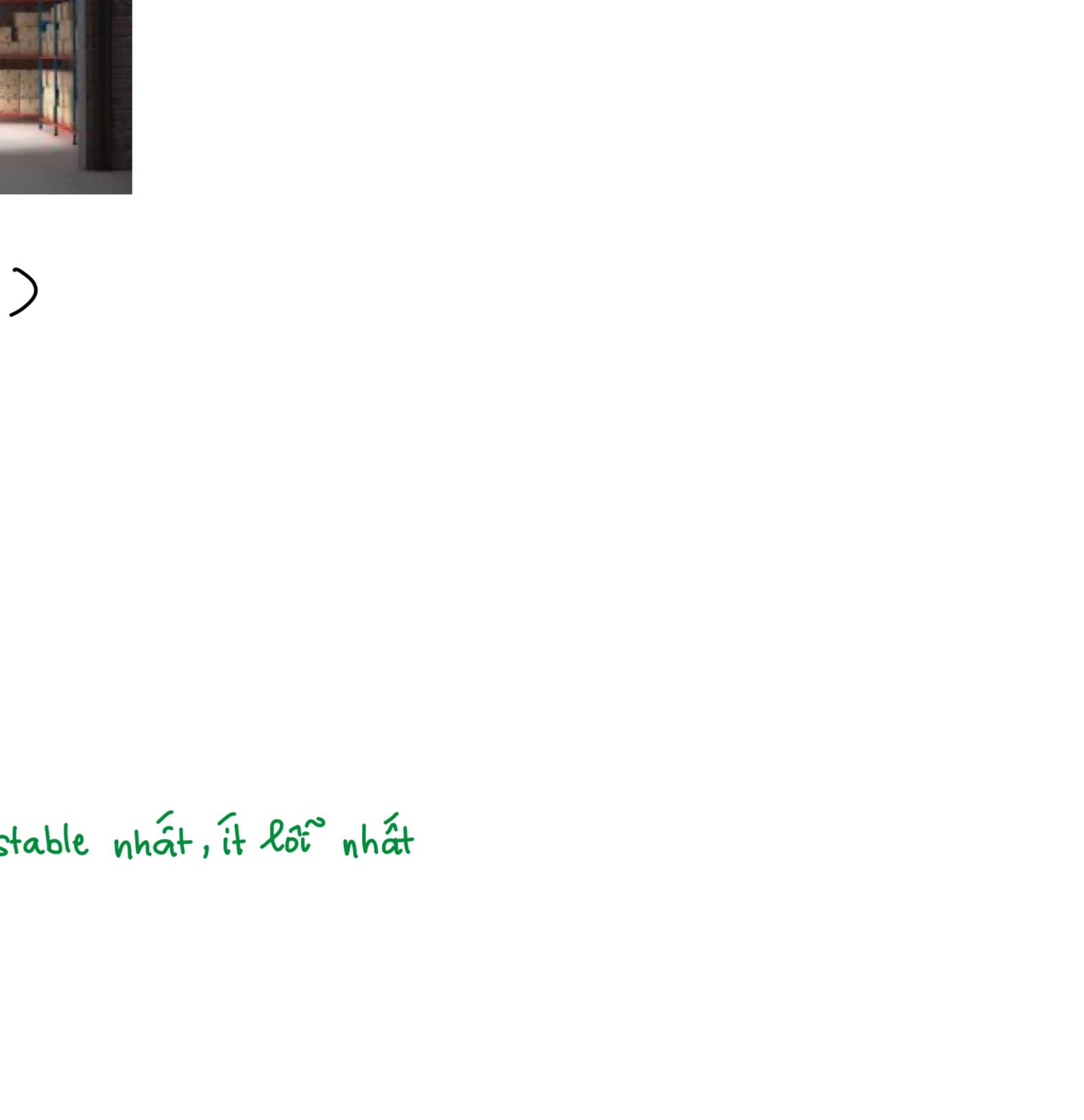
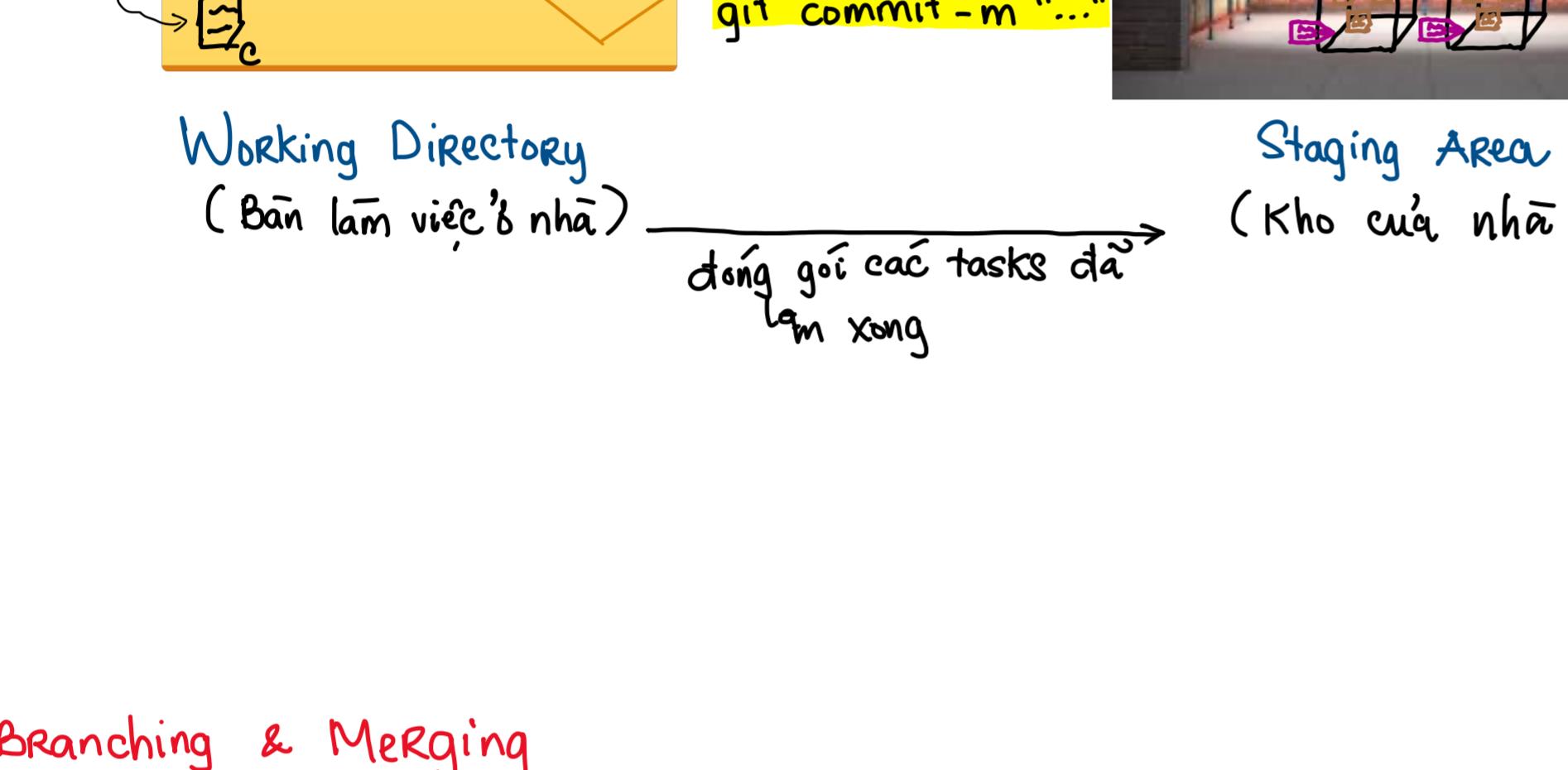
~ Each commit has an unique "tag" to differentiate others



- **Git log** lists all commits created with their "tag"s and timestamp.
- **Git show "tag"** displays what inside the commit having "tag"
- **Git diff** shows changes in modified files (not untracked files)
  - press "q" to exit viewing diff mode

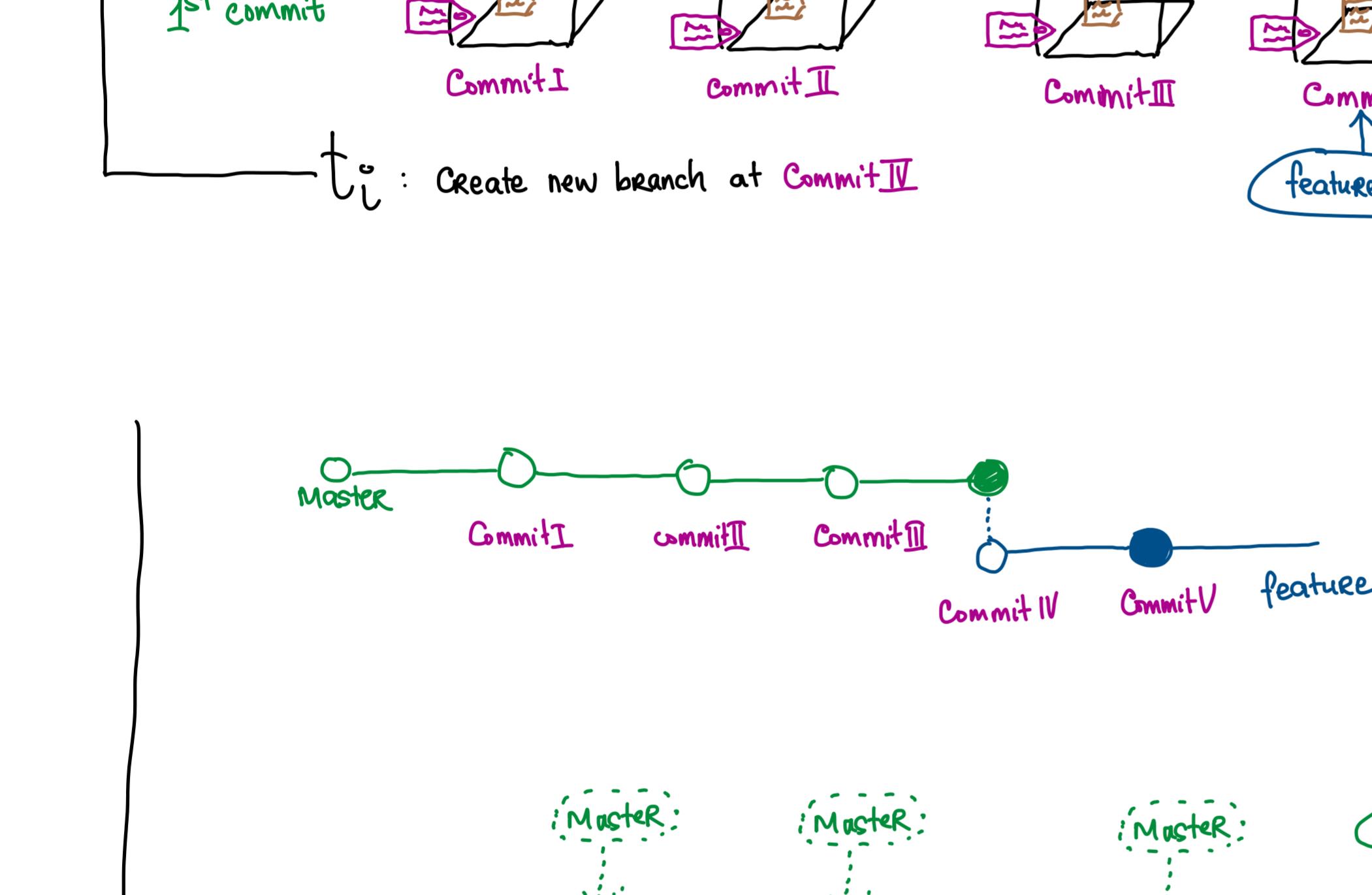
## 2. Working dir, staging area, git Repo

- Working directory : thư mục làm việc 's local (folder chứa project)
- Staging area: nơi chứa các commits committed
- Git Repo: source code publish to all teammates

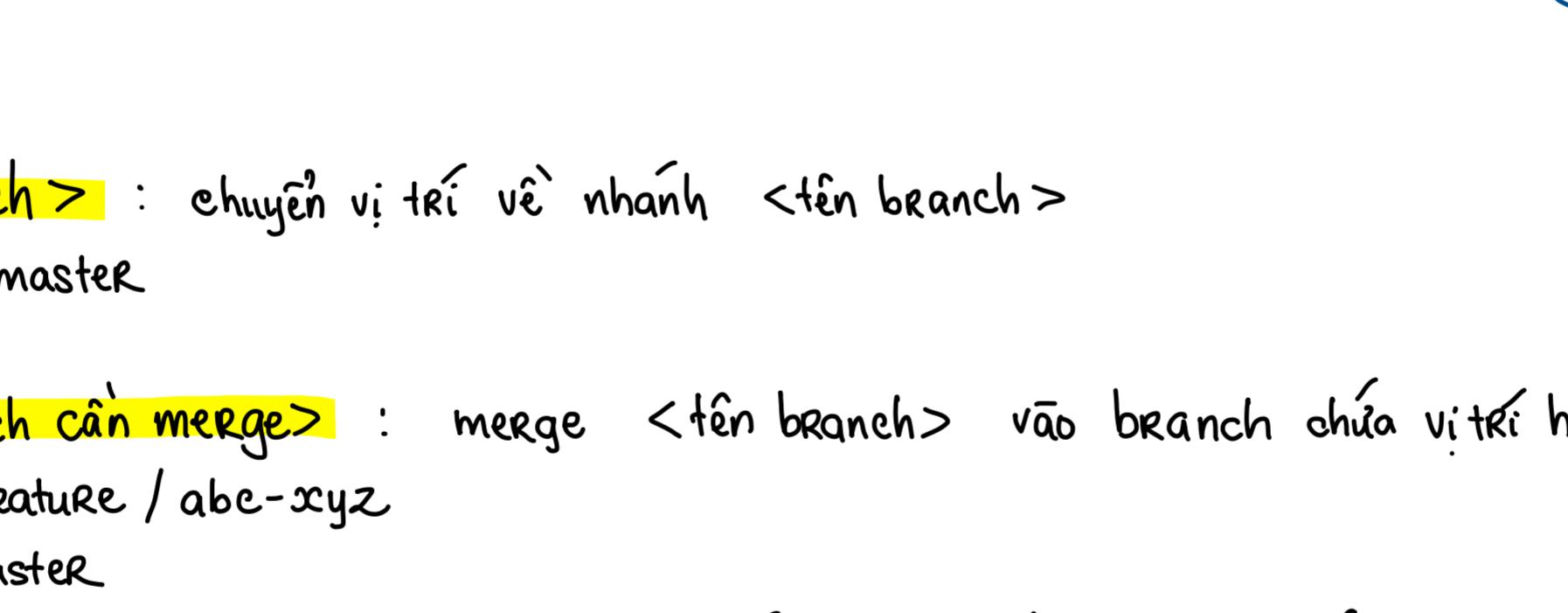


## 3. Git Checkout, Reset

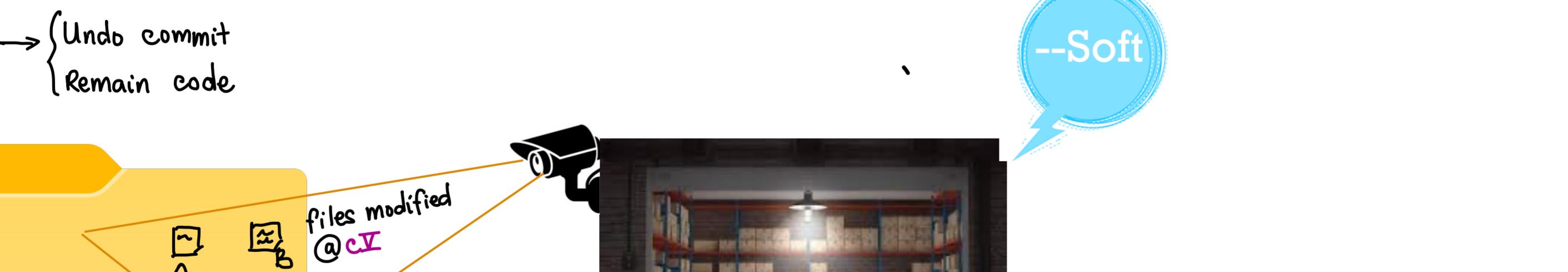
- **Git checkout -- <file>** removes changes in a modified file
- **Git Reset HEAD <file>** removes the staging file (undo `git add <file>`)



## 4. Branching &amp; Merging

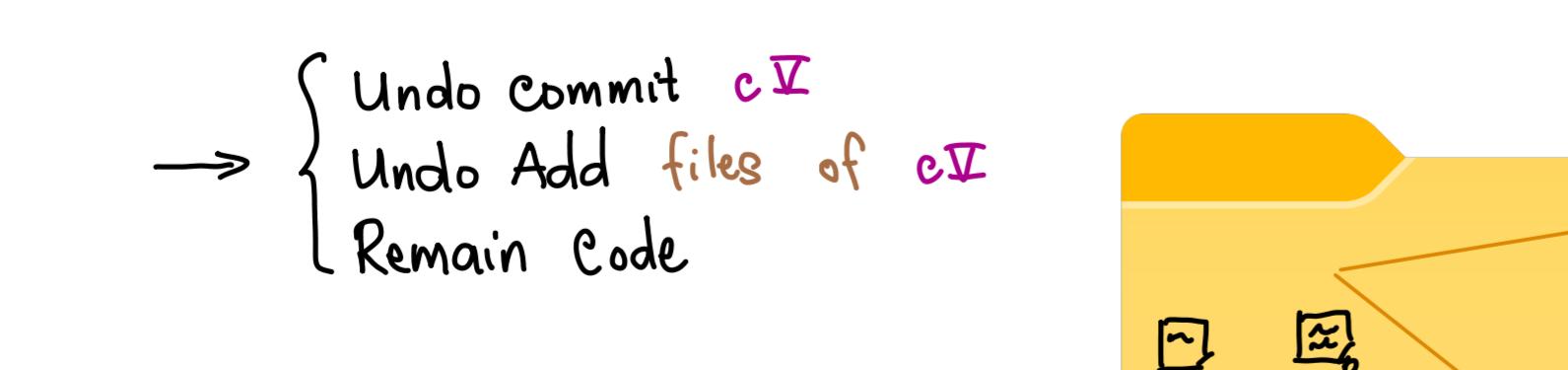


- **Git branch** shows all branches & my current branch
- **Git checkout -b <branch name>** creates and move current position to <branch Name>
  - Ex: Master → Commit I → Commit II → Commit III → Commit IV → Commit V → feature/abc-xyz
  - `git checkout -b feature/abc-xyz`
- **Git merge <branch cần merge>** : merge <branch> vào branch chưa vị trí hiện tại
  - VD: Master ← feature / abc-xyz
  - Step 1: checkout Master
  - Step 2: `git merge feature / abc-xyz` : cập nhật các commits ở branch feature / abc-xyz
- **Git branch -D <branch>** : deletes branch <branch>
  - Khi Master is up-to-date, \_ muốn checkout branch feature / abc-xyz → xoá feature / abc-xyz



## 5. Undo a commit

Ex: Commit V has bugs, we want to comeback Commit IV, and remove Commit V:



`Opt 1: Git Reset --soft commitIV :`

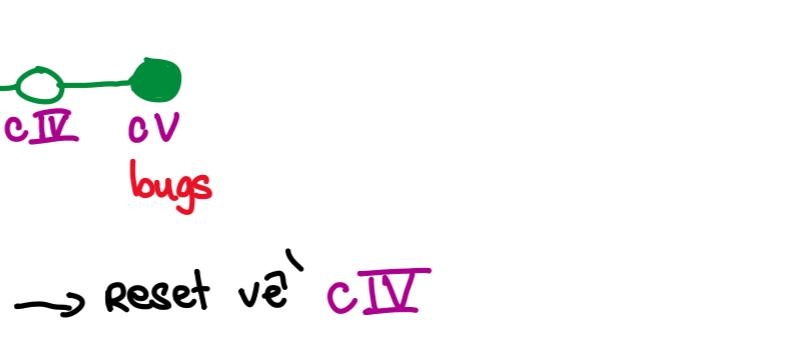
→ { Undo commit cV  
Undo Add files of cV  
Remain code }



--Soft

`Opt 2: Git Reset --mixed commitIV :`

→ { Undo commit cV  
Undo Add files of cV  
Remove modified code by cV }

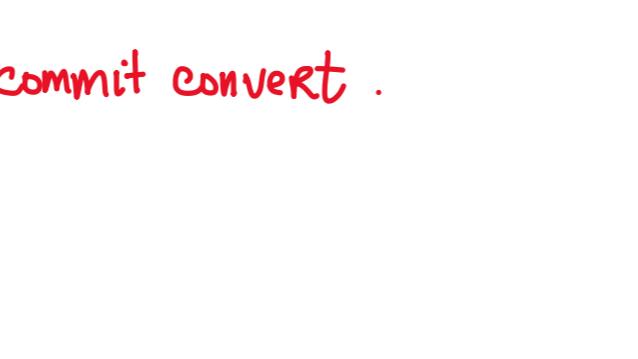


--Mix



`Opt 3: Git Reset --hard commitIV :`

→ { Undo commit cV  
Undo Add files of cV  
Remove modified code by cV }



--Hard

## 6. Git Revert &lt;commit&gt; : Undo Commit

Revert vs Reset

- Undo commit cV
- Muốn sửa cIII → Revert cIII.
- (Nếu Reset về cII, mất cIII, cIV và cV)

→ Git Revert sẽ tạo 1 commit mới và đảo ngược lại commit revert.



Note: Revert dễ conflict → Alternative: tạo commit mới, sửa lỗi

