Team Name: CBILITY TECHNOLOGIES CO., Ltd.

From this lab, we learned the basics of Git used in software development including the issues faced when collaborating on the same branch resulting in conflicts. This includes commands such as git add, git status, git commit, git push, git pull, git branch and more.

When initially creating the dir for each team, we learned the flow needed to make changes on the remote repository to match our local repository. To do this we needed to git add the files, followed by git commit -m "commit message", where the commit message is relevant to the changes made and finally git push, to push it to the remote repository. This allows other members of the team to use the git pull command to retrieve the changes and work on the same version.

In step 7, we learned that we can use git reset --hard to revert changes made to the stated git version, which can be viewed using git log. In our case, we wanted it to reset to a previous version where the contents of favoriteFood.txt hadn't been changed. In our case we wanted this git version is 3244e170e917c8006f7f676220586b7307767ee0, therefore we did git reset --hard 3244e170e917c8006f7f676220586b7307767ee0. This changes the HEAD of git and allows for version control. In terms of seeing the changes between our local and remote repository, we can use git status which will list the files that are different.

```
pruephakin@Phakin:/mnt/c/Users/PC/Desktop/SEN201_AnimalShelter$ git commit -m "Editted TempREADME.md"
[main c9bc8e9] Editted TempREADME.md
 1 file changed, 1 insertion(+)
pruephakin@Phakin:/mnt/c/Users/PC/Desktop/SEN201_AnimalShelter$ git push
To github.com:Rawporkz/SEN201_AnimalShelter.git
 ! [rejected]        main -> main (fetch first)
error: failed to push some refs to 'github.com:Rawporkz/SEN201_AnimalShelter.git'
hint: Updates were rejected because the remote contains work that you do
hint: not have locally. This is usually caused by another repository pushing
hint: to the same ref. You may want to first integrate the remote changes
hint: (e.g., 'git pull ...') before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
pruephakin@Phakin:/mnt/c/Users/PC/Desktop/SEN201_AnimalShelter$
```

When both teams try to change the same file, in this case "TempREADME.md" , TeamB faces an error, this is due to the remote version not aligning with TeamB's local version, since TeamB hasn't pulled the latest version after TeamA has made changes resulting in a merge conflict when TeamB tries to push their version of the file.

When TeamA adds a new line and commits their change, and tries to pull without pushing an error pops up "error: Your local changes to the following files would be overwritten by merge: TempREADME.md". This happens because the local repository is at a different head from the remote repository.

```
⊗ Shelter$ git merge lab6
  Auto-merging TempREADME.md
  CONFLICT (content): Merge conflict in TempREADME.md
  Automatic merge failed; fix conflicts and then commit the result.
```

When both teams work on different branches and the files don't overlap, there won't be any conflicts during the merging process. Whereas, if both teams work on the same file despite being on different branches, a conflict error will occur when attempting to merge, because the two versions of TempREADME.md have conflicting changes.