**DSI: Unix Shell, Git and GitHub – Lillian Sung**

**Assignment 2 & Quiz: Git and GitHub**

1. Check all that are TRUE about version control:

Can revert files to a previous state TRUE

Can compare changes over time TRUE

Can see who modified something last TRUE

Can recover lost files TRUE

2. What is the difference between centralized version control systems and distributed version control systems?

Centralized version control has a single server that contains all the versioned files. It has more transparency as you can see what has happened throughout the pipeline. However, it is a single source of failure and thus, if it goes down, no one can access the system. It also means it is easier to lose work.

Git is a distributed version control system. With these systems, collaborators have a mirror of the entire repository and thus, can work without network connection. It is also secure as if the server is lost, one of the collaborators can use their repository to restore it.

3. What are the three states that files can reside in?

a) committed, changed, waiting

b) saved, changed, staged

c) committed, modified, staged

d) saved, modified, staged

C IS CORRECT

4. What command initializes a new repository?

a) git clone

b) git branch

c) git fork

d) git init

D IS CORRECT

5. What does git diff do?

a) compares the differences between the home directory and staging area

b) compares the differences between the working directory and staging area

c) compares the differences between the working directory and what’s been committed

d) compares the differences between the staging area and what’s been committed

B IS CORRECT

6. How do you add a message to your commit? (select all that apply)

a) git commit -m

b) git commit -messages

c) git commit

d) git commit -message

A AND C ARE CORRECT

7. How do you add a remote repo? (select all that apply)

a) git remote

b) git add remote

c) git clone

d) git add clone

None of the above. It requires git remote add (not technically one of the options – I am not sure if you can change the add and remote order)

8. What is the difference between git pull and git fetch?

Git fetch downloads a copy from the remote repository to the local directory but does not affect the local directory – it isolates the fetched and local contents. It won’t merge into the local directory work.

Git pull fetches a copy from the remote repository and merges a remote branch to our current branch. I would typically use git pull rather than git fetch.

9. How do you switch branches?

a) git checkout

b) git checkout -b

c) git branch -c

d) git branch

A IS THE CORRECT ANSWER

10. Why are messages important? What would make a good commit message?

Messages are really important to know what changes were done and where to revert to if there is a problem. They are also important to explain to collaborators what was done.

11. Please correct the merge shown below (both codes are suitable, neither has errors):

<<<<<<< HEAD

df.loc[df['sex'] == 'f', 'age'].mean()

=======

df.loc[df['sex'] == 'm', 'age'].mean()

>>>>>>> branch\_1

ANSWER BELOW

df.loc[df['sex'] == 'f', 'age'].mean()

12. push your first assignment to GitHub and add a REAME.md.