AMS 550.400 HW SET 1 Due Date: Oct 8

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Problem 1 (10 pts):

1. mkdir hw1p1.git
2. cd hw1p1.git
3. git init .
4. vi main.txt
5. git add .
6. git commit -m "A added to master"
7. vi main.txt
8. git add .
9. git commit -m "B added to master branch"
10. git branch alt
11. git branch
12. vi main.txt
13. git add .
14. git commit -m "C added to master branch"
15. git checkout alt
16. vi main.txt
17. git add .
18. git commit -m "X added to alt branch"
19. git checkout master
20. git merge alt
21. vi main.txt
22. git add .
23. git commit -m "Alt merged to master branch"

24. git branch
25. vi main.txt
26. git add .
27. git commit -m "D added to master branch"
28. git log –graph –oneline
29. git checkout alt
30. git log –graph –oneline

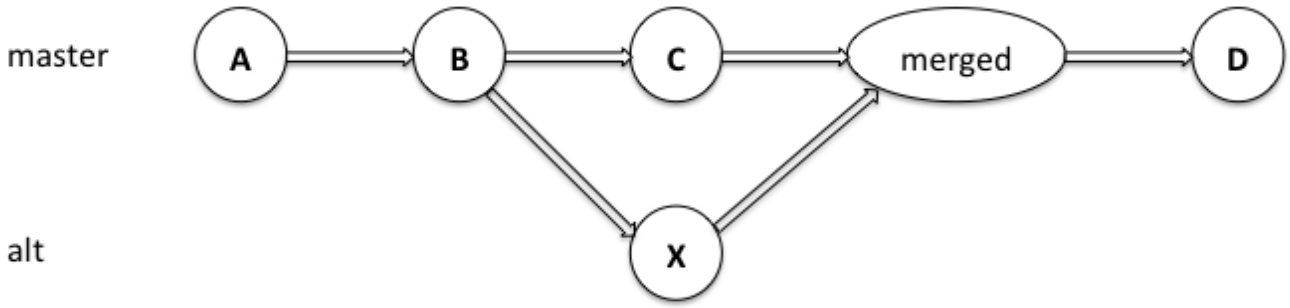

Figure 1: Master Commit Graph

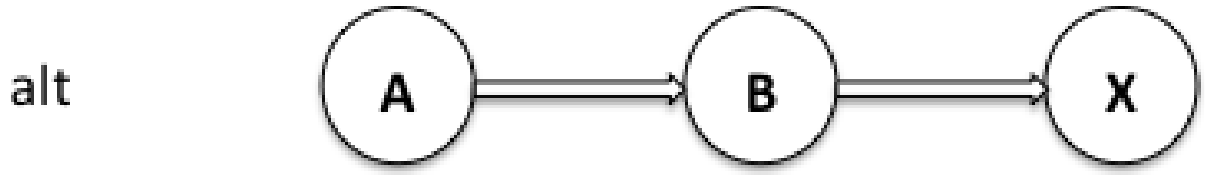

Figure 2: Alt Commit Graph

Problem 2 (10 pts):

1. mkdir hw1p2.git
2. cd hw1p2.git
3. git init .

4. git remote add s1 git://github.com/nhlee/550400.stanza1.git
5. git pull s1 master
6. vi main.txt
7. git add .
8. git commit -m "Title added"
9. git remote add s2 git://github.com/nhlee/550400.stanza2.git
10. git pull s2 master
11. vi main.txt
12. git add .
13. git commit -m "2nd stanza merged"
14. git remote add s3 git://github.com/nhlee/550400.stanza3.git
15. git pull s3 master
16. vi main.txt
17. git add .
18. git commit -m "3rd stanza merged"
19. git remote add origin https://github.com/tangdnn/550400.homeworkset.1.git
20. git push origin master
21. git remote rm origin

Problem 3 (40 pts):

For this exercise, we wish to build a cooperative strategy for a team of four students who have split up the presentation into four parts.

Strategy 1:

- **Formulate the Problem.** Since they do not wish to work concurrently, we must develop two different work flow strategies for the team to merge all four parts together without the need for a group meeting using `git`.

- **Outline the Model.** One work flow strategy for this team is to for the team members to merge their presentation consecutively; i.e.: B merge with A, then B merge with C, and lastly, D merge with C. The endogenous variable of this model is for all four team members to combine their respective parts of the presentation without working concurrently during a group meeting. The exogenous variable of this model is an effective work flow strategy proposal—in this case, merging each part consecutively using `git`—to combine different parts of the presentation. Unimportant variables that can be neglected are the amount of time it takes to write each part on its own (assuming that at least two parts are done at the time of merging), the physical quantity of each part, and the consistency of each students' writing. In this case, the combination of all four parts of the presentation (endogenous variable) depends on the process of consecutive merging work flor strategy (exogenous variable).

- **Is It Useful?** Yes, the consecutive merging work flow model is useful. The model fulfills all of the requirements set by the problem. Since model requires B, C, and D to merge each previous part, the actual merging does not require any group members to be present, least of all at the same time. The merging can be done on team member's own time. More importantly, this strategy allows all four parts to be merged in `git`.

- **Test the Model.** We can predict that this model is efficient. Since the whole model can be done in very quickly, assuming that all students have their respective parts done at the time of merging, we can say that the model is efficient. We can also test that this model can be done quickly. Even if not all students have their parts done at the same time, each merging step would only take a minute or two. Thus, we can say that this model can also be done quickly.

- **Strengths and Weaknesses.** The advantages of this model is that it allows the team members to combine their parts of the presentation together without needing them to be present at the same time. The model is also quick and efficient, as explored in the Test the Model section. However, one major disadvantage is that since there is no requirement for all students to have their parts done at the same time, each merging step might be delayed since it depends on whether or not one of the students finished their part. The model might be held up if A did not finish the *Introduction*, and students B, C, and D have to wait for A to finish in order to combine the presentation.

Strategy 2:

- **Formulate the Problem.**
- **Outline the Model.**
- **Is It Useful?**
- **Test the Model.**
- **Strengths and Weaknesses.**

Final recommendation:

Problem 4 (aka. Fair Play, 40 pts): Answer the following question:

Is the tennis game fair?

Note that unlike Problem 3, this question is vaguely stated. This is intensional, whence to begin, you will first need to clarify what exactly your question is. You may use the class discussion on this particular problem, but you *may not* directly refer to our discussion. Instead, formulate the model carefully but concisely in your own words.