Knowledge Test K4

COMP 4081 • Software Engineering • Fall 2019

Solutions

Name: ________________________, ________________________
Last name First name

Rules:

- No potty breaks.
- Turn off cell phones/devices.
- Closed book, closed note, closed neighbor.

- WEIRD! Do not write on the backs of pages. If you need more pages, ask me for some.

Reminders:

- Verify that you have all pages.
- Don't forget to write your name.
- Read each question carefully.
- Don't forget to answer every question.

1. [1] In Figure 1, which branch was the user on when they made commit `2e1ec`?

master

2. [1] In Figure 1, which branch was the user on when they made commit `98d8b`?

iss1

3. [1] In Figure 1, which branch was the user on when they made commit `5ab3b`?

master

4. [1] In Figure 1, which version (commit) of the project is currently in the user's working directory?

5ab3b

5. [1] In Figure 1, which branch is the user currently on?

master

6. [1] In Figure 1, which is the oldest commit?

cb157

7. [2] In Figure 1, at the point labeled A, what happened? (Fill in the blanks to answer.)

iss1 was merged ed into master

(a branch) (a verb) (a branch)

8. [2] Based on Figure 1, list all the commits that are in both the `master` branch's version history and the `iss1` branch's version history.

cb157, 98d8b, 26c94

Each of the following problems presents a Git log graph (log messages omitted) of a local repo and a scenario. Update the graph by crossing out and/or adding appropriate text.

- You may or may not need to use the two blank lines above the graph.
- If you need to add a commit, use the hash `c1c1c`.
- If a command would be rejected by GitHub (e.g., because the remote contains work that you do not have locally), write "REJECTED" on the top line.
- Assume that all remote bookmarks depicted are up to date.

9. [5] Scenario: Developer makes changes to the code, stages the changes, and commits.

```
* 37da5 (master)
| * a9e9c (HEAD -> iss1)
| * 3f2fd
|/
* dc268
```

```
  * c1c1c (HEAD -> iss1)
* | 37da5 (master)
| * a9e9c
| * 3f2fd
|/
* dc268
```

10. [5] Scenario: Developer runs `git checkout -b iss2`.

```
* 37da5 (master)
| * a9e9c (HEAD -> iss1)
| * 3f2fd
|/
* dc268
```

```
* 37da5 (master)
| * a9e9c (iss1, HEAD -> iss2)
| * 3f2fd
|/
* dc268
```

11. [5] Scenario: Developer runs `git merge master`. Assume that auto-merge, if used, would complete successfully with no merge conflicts.

```
* 37da5 (master)
| * a9e9c (HEAD -> iss1)
| * 3f2fd
|/
* dc268
```

```
  * c1c1c (HEAD -> iss1)
/ |
* | 37da5 (master)
| * a9e9c
| * 3f2fd
|/
* dc268
```

12. [5] Scenario: Developer runs `git merge iss1`. Assume that auto-merge, if used, would complete successfully with no merge conflicts.

```
* 37da5 (iss2)
| * a9e9c (iss1)
| * 3f2fd
|/
* dc268 (HEAD -> master)
```

```
* 37da5 (iss2)
| * a9e9c (iss1, HEAD -> master)
| * 3f2fd
|/
* dc268
```

Bonus Problems

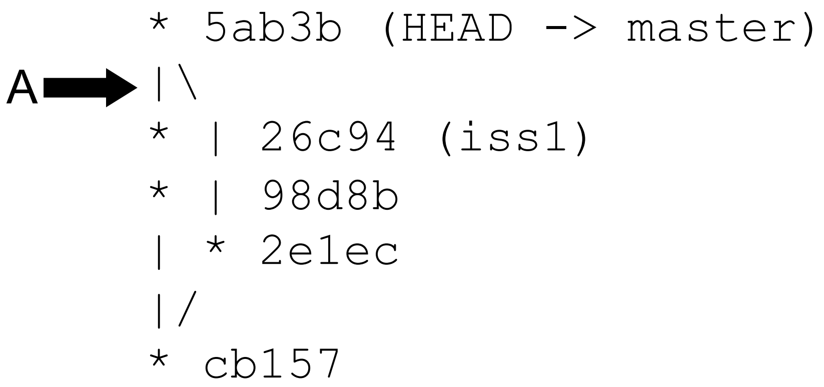
1. [3] Would the scenario in question 11 result in a fast-forward merge? Explain why.

No. master was being merged into iss1; however, there were commits made to master that were not part of iss1's version history. Thus, a fast-forward merge was not possible.

2. [3] Would the scenario in question 12 result in a fast-forward merge? Explain why.

Yes. iss1 was being merged into master, and all commits made to master were already part of iss1's version history. Thus, a fast-forward merge was made.

Figures



```
* 5ab3b (HEAD -> master)
|\
* | 26c94 (iss1)
* | 98d8b
| * 2e1ec
|/
* cb157
```

Figure 1