

# Knowledge Test K4

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COMP 4081 • Software Engineering • Fall 2019

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?

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

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

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

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

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

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

\_\_\_\_\_ **was** \_\_\_\_\_ **into** \_\_\_\_\_  
(a branch) (a verb, past tense) (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.
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Each of the following problems presents a Git log graph (log messages omitted) of a local repo and a scenario. Give the updated graph that would result from each scenario.

- 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
```

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

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

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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
```

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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)
```

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## Bonus Problems

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

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

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## Figures

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

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Figure 1