Knowledge Test K1

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.

- <u>WEIRD!</u> 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 <u>carefully</u>.
- Don't forget to answer <u>every</u> question.

1. [3] What three things does great software deliver?

_____

_____

_____

2. [1] Which one of the following is indicative of the *software crisis*?

    a) High rates of distraction-related automobile crashes

    b) Election interference from foreign powers via social media

    c) High failure rates among software projects

3. [1] Which of the following is the *Single Responsibility Principle*?

    a) A class should have only one reason to change.

    b) Each developer on a team should have one main responsibility.

    c) Every app will have one responsibility that is most important to users.

4. [1] What kind of diagram is depicted in Figure 1?

    a) Class diagram

    b) Dataflow diagram

    c) Control flow diagram

5. [3] What does each letter in MVC stand for?

M	V	C
a) Management	a) Value	a) Console
b) Model	b) Version	b) Controller
c) Migration	c) View	c) Compiler

6. [3] What are the various components in MVC responsible for?

M components	V components	C components
a) User interface	a) User interface	a) User interface
b) Translating between user interface actions/events and operations on the domain objects	b) Translating between user interface actions/events and operations on the domain objects	b) Translating between user interface actions/events and operations on the domain objects
c) "Business logic" and domain objects	c) "Business logic" and domain objects	c) "Business logic" and domain objects

7. [3] For each of the following operations that a web browser might perform on a resource, tell which type of HTTP request method should be used.

Create resource	Delete resource	Read resource	Update resource
a) DESTROY	a) DESTROY	a) DESTROY	a) DESTROY
b) GET	b) GET	b) GET	b) GET
c) PATCH	c) PATCH	c) PATCH	c) PATCH
d) POST	d) POST	d) POST	d) POST

8. [6] For each term below, give the letter label from Figure 1 for the corresponding diagram element.

Browser _____

C from MVC _____

Database _____

Internet _____

M from MVC _____

Router _____

V from MVC _____

9. [1] What is the purpose of the router in the rails MVC diagram?

   a) It handles controller method calls to the model.

   b) It determines what server to communicate with.

   c) It translates HTTP requests into calls to controller methods.

10. [1] Which of these terms best describes Git?

   a) Distributed Version Control System

   b) Issue Tracking System

   c) Web-Based Version-Control Repository Hosting Service

11. [1] Which of these terms best describes GitHub?

   a) Distributed Version Control System

   b) Issue Tracking System

   c) Web-Based Version-Control Repository Hosting Service

12.[1] Which Git command saves a new version of the project to the local repository?

    a) Clone

    b) Commit

    c) Push

13.[1] Which Git command downloads a remote repo and sets up a local repo and working directory?

    a) Clone

    b) Commit

    c) Push

14.[3] For each term below, give the letter label from the Git-repo diagram in Figure 2 for the corresponding diagram element.
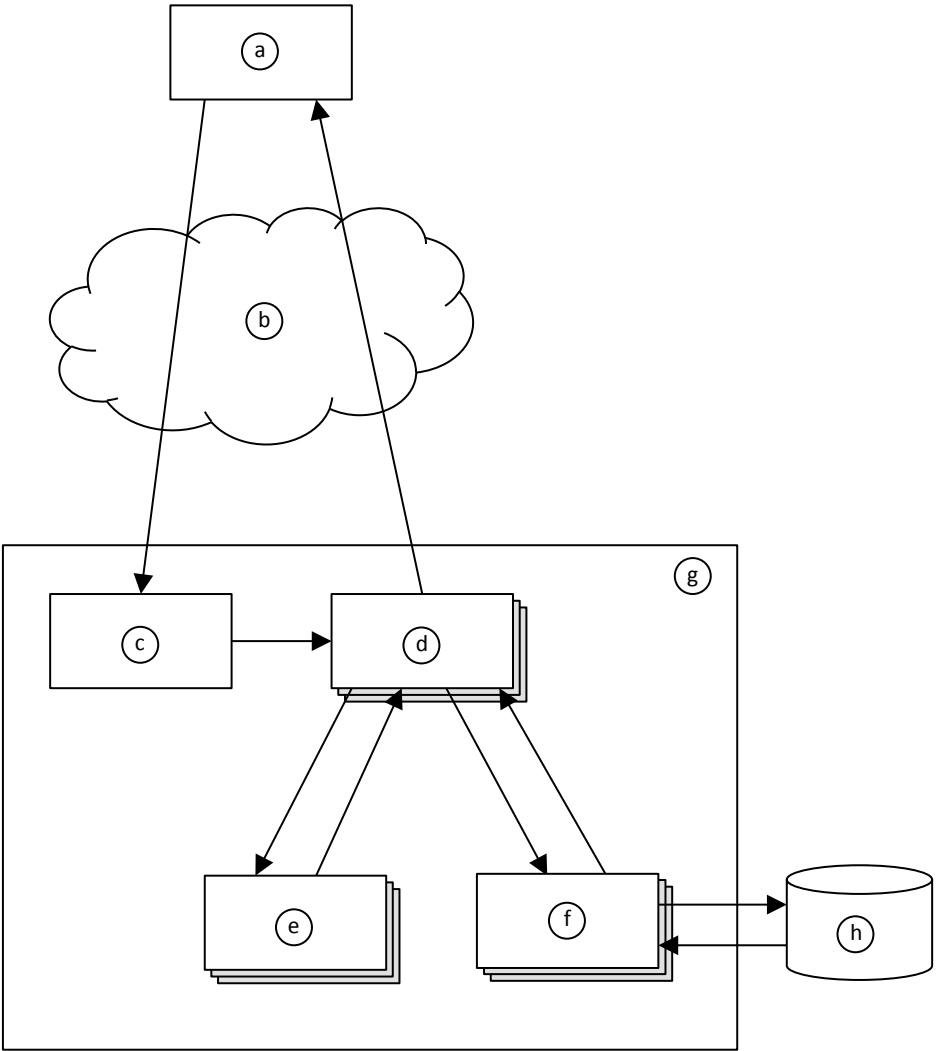
Branch _____

Commit _____

HEAD _____

15.[1] Which of the following does <u>not</u> help with Rails development environment configuration management?
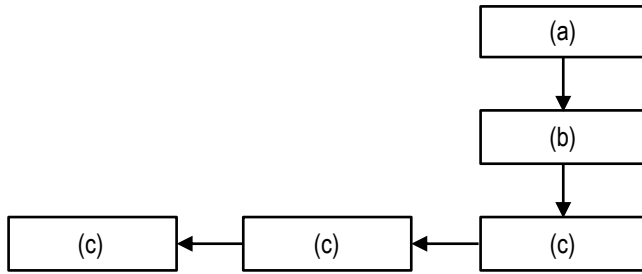
    a) Bundler

    b) PostreSQL

    c) RVM

Figures

Figure 1

```
          ┌──────────┐
          │   (a)    │
          └────┬─────┘
               │
               ▼
          ┌──────────┐
          │   (b)    │
          └────┬─────┘
               │
               ▼
┌────────┐  ┌────────┐  ┌──────────┐
│  (c)   │◄─│  (c)   │◄─│   (c)    │
└────────┘  └────────┘  └──────────┘
```

Figure 2