

Open Source Software — CSCI-4961-01 — Summer 2018

Quiz 1

June 28, 2018

Name: \_\_\_\_\_

RCS ID: 

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@rpi.edu

RIN#: \_\_\_\_\_

Honor pledge: On my honor I have neither given nor received aid on this exam.

Please sign here to indicate that you agree with the honor pledge: \_\_\_\_\_

**Instructions:**

- Clearly print your name, RCS ID (in all caps.) and your RIN at the top of your exam.
- This test is open book, open notes and open computer. You **may** not use the internet. Please turn off your wifi.
- There are **7 questions** on this test worth a total of **95 points**.

1. Short answers (18 pts)

- (a) Richard Stallman defines free software as possessing four essential freedoms. Please list them below. (12 pts)

i.

ii.

iii.

iv.

- (b) Open source licenses generally fall into two basic types: Copyleft and Permissive. Please define Copyleft and Permissive licenses below. (6 pts)

i. The characteristics of a Copyleft license are:

ii. The characteristics of a Permissive license are:

2. Please indicate whether each of the following licenses or licensing scenarios results in a permissive, copyleft, proprietary or public domain (12 points):

(a) Licensed with GPL:

(b) Licensed with BSD:

(c) An integration of two open source projects one licensed copyleft and the other licensed permissive:

(d) No license:

3. For each question below, circle the best answer (12 pts)

(a) Which command shows you a summary of all commits into a git repository?

i. git branch

ii. git status

iii. git checkout newbranch

iv. git log

- (b) Literate programming:
    - i. Is well structured code with minimal comments
    - ii. Cannot express complicated algorithms
    - iii. Mixes code and comments in an easily human readable format
    - iv. Is a failed development methodology
  - (c) Open or Free software:
    - i. Cannot be used for a commercial purpose
    - ii. Can be redistributed either for free or for a fee
    - iii. Can be sold, but only for the nominal cost of the media used to store it
    - iv. Must be maintained by unpaid volunteers
  - (d) It is a good idea when selecting an open source license to:
    - i. Go to an authority such as the OSI and pick an approved license
    - ii. Create a new license from scratch because it is unlikely that an existing license would meet your needs
    - iii. Just place the code in a public repository. Easily available code is the same as open
    - iv. Take an existing, approved license and modify to better represent your unique personality
4. Give a sequence of git commands to accomplish the following (you can assume that you are always working on the “master” branch”) (15 pts):
- (a) Create a new git repository on your local machine.
  - (b) Assume you have a new file “foo.txt” in your local directory. Add this file to your repository.
  - (c) Set up your repository to communicate with a public repository at “https://www.mypublicrepository/public.git”
  - (d) Send your changes to the public repository
  - (e) Assume someone else makes changes to the repository. Add the changes in the public repository into your local version.

Write git commands below:

5. Write markdown to duplicate the document below. You can assume the photo name is “photo.jpg” (15 pts):

# Test file - Biggest Header

## Next Smallest header

1. Enumerated list
2. Of multiple lines
3. It doesn't matter

### And a picture in a smaller yet header



Write Markdown commands below:

6. Assume you have 3 source files a main file “prog.c” and two additional files “f1.c”, and “f2.c” containing code that “prog” depends upon. Write a Makefile that creates object files for all 3 sources, creates a library containing the code from “f1.c” and “f2.c”, and then appropriately creates an executable named “prog.exe”. Make sure your Makefile contains appropriate “all” and “clean” targets. (15 pts):

Write your Makefile below:

7. Repeat the previous exercise for CMake. (8 pts):

Write your CMakeLists.txt file below: