CST 240 Final Review

W2019

The final will be in two parts, a paper test covering concepts and a practical part that will allow you to demonstrate a collection of skills. The paper portion will be closed book, closed note. The practical part will be open note, open Internet. Portions of the practical part will be like a scavenger hunt: can you come up with the answer to a question in a reasonable amount of time? The only restriction on coming up with the answer is that you will not be allowed to communicate with others (via the Internet, or other technology) during the exam.

**Concepts to be comfortable with:**

1. What is a shebang and what is its purpose?
2. What is the difference between compiled and interpreted languages?
3. What is open source (or free) software? What is the philosophy behind it?
4. What are the differences between processes and threads? Why would you choose one over the other for a particular application?
5. What are locks and why do we use them?
6. Why did we use C in this class instead of C++?
7. What are ways for processes to communicate with each other? Why would you choose one over the other?
8. What do the < > | symbols mean in bash commands? What is involved in implementing that functionality in a shell?
9. What is the difference between fopen() (and its family of functions) and open() (and its family of functions)? When and why would you use one over the other?
10. What is git and why would you use it?
11. What are makefiles?
12. How do you start and wait for processes?
13. How do you start and wait for threads?
14. What is a client/server application? and what’s the outline for how one is implemented?
15. What is gdb?

**Things that can be on the practical portion:**

1. Specifics about bash commands
2. Illustrating a feature of Python
3. Specifics about the C run time library (open, pthread\_create, pipe, etc.)
4. Specifics about gdb (how do you …?)
5. Specifics about git (how do you …?)

Some of the questions will cover things we’ve done in class. Some of them you may know the answer to without looking anything up. But others will go beyond what we’ve done in class to see if you’ve learned to find and interpret information. The man pages are your friends.